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PENNSYLVANIA

GAME NEWS



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Arthur Henze

April 1943

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PENNSYLVANIA GAME NEWS

PUBLISHED MONTHLY BY THE PENNSYLVANIA GAME COMMISSION, HARRISBURG, PENNSYLVANIA

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VOL. XIII, NO. 13

EDITORIAL

APRIL, 1943

IN THIS ISSUE

☆

Game in National Defense
By J. R. Mattern

★

The American Beaver
By James A. Brown

★

Portion of Famous "Barrens" in Centre County acquired as State Game Lands
By W. Gard. Conklin

★

Some Census Methods for Game
By Allan T. Studholme

★

Would You Be A Trapper?
By S. V. Sedlak

★

Recognition At Last
By Herbert L. Dozier

★

Plant a Game Food Plot
By C. C. Freeburn

★

Log of Rattlesnake Shack
By A. B. Champlain

★

Notes from the Federation

★

The Last Days of Rock Shanty
By Lewis D. Reddinger

★

Coon Hunting Diary
By Paul P. Prugh

★

Cover by Arthur Henze

☆

HARVEST THE CROP

It is characteristic of the American people to go the whole hog on whatever they undertake. This has been evidenced in many ways and by many things—from tall buildings to motion-picture productions. We have never been satisfied with anything but the biggest and the best.

When the Japs shot us on the ground at Pearl Harbor, we turned our energies toward the making of war and the tools of war. Whereas our enemies believed that we would not be willing to forego 1943 Model automobiles, we on the contrary chose to convert our vast automobile industry into the making of such swarms of fighting aircraft as the world has never seen. This is as it should be. Our principal job now as a people is to win this war, and to win it so convincingly that no Jap or Nazi jingoist will dare to speak above a whisper for the next hundred years. To this end we should devote all of our resources and all of our energies.

There are, however, certain vital parts of our national economy which cannot be neglected during war time. One of these is the harvesting of our crops. In addition to the thousands of acres of corn and wheat and potatoes and beans which we must cultivate and harvest, there are hundreds of thousands of game birds and animals which have been propagated and cared for at great cost and effort. For many years all conservation agencies—the U. S. Fish and Wildlife Service, the American Wildlife Institute, the American Game Association, the Izaak Walton League, Ducks Unlimited, and many hundreds of local game commissions and sportsmen's clubs have worked whole-heartedly for the preservation and restoration of wildlife. The results have been gratifying. Waterfowl have come back, and many game birds and animals are on the increase. These all constitute a very important part of our natural resources and our national economy. They represent a crop which must be harvested just as surely and as sanely as any farm or ranch crop, be it grain or livestock.

It doesn't make sense to us to nullify the work and expense of years by failure to handle this problem sensibly. To permit an increase of any wild bird or animal over and above the available food supply is to destroy that bird or animal just as surely as by overshooting. This seems to us to be plain, ordinary common sense.

A wise cattle rancher, for instance, will not attempt to raise more calves than his range will feed. On the other hand, he will not butcher his breeding stock and thus destroy his source of supply. He will endeavor to maintain his herd at a level which will produce a calf crop in proportion to the amount of available grass. As he is able to secure additional range he will build up his herd, but not until then.

The war has already had a decided effect on waterfowl. Coast Guard restrictions, lack of gasoline and fewer hunters have combined to save hundreds of thousands of ducks. This is fine up to a certain point. Next year, however, there will be a definite problem. There should be a tremendous increase in waterfowl population, and there will certainly be an insufficiency of natural feed. The result will be that the birds will infringe on rice fields and corn fields, and there will be some crop damage.

In these days of war and possible food shortages any damage done by wildfowl will be magnified a thousandfold. The cranks who oppose hunting will say: "Look at what these crazy hunters and all their conservation talk have brought about! Wild birds eating up our vital food supplies! Something should be done about it. These birds should be destroyed!"

The market hunter will see his chance for a come-back. "The birds are overrunning the country, he will say. Bag limits should be abolished. Sale should be permitted."

There is only one answer to the problem and one way to prevent a disastrous situation—the annual crop must be harvested. The U. S. Fish and Wildlife Service should determine the necessary bag limits and length of seasons to maintain the population at maximum level. The Federal Government should permit the manufacture of standardized duck loads in sufficient quantity to harvest the 1943 crop. There are thousands of older men and boys in this country who are not eligible for the armed services but who are excellent and enthusiastic gunners. Most of them are working harder than they ever worked in their lives

(Continued on page 32)

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Photo courtesy Philadelphia Inquirer.

Lt. John Creighton, U. S. Coast Guard, receives Shepherd brought from donor by Mrs. William Severn of the Emergency Aid of Pennsylvania. The Widener Estate, outside of Philadelphia, was turned over by Lt. P. A. B. Widener of the Coast Guard to this branch of the service for their training station. Only Shepherds are used and they have already proved their value protecting our coasts. Anyone interested in the important project of raising puppies, so that more dogs bred right can be supplied the armed forces next year, should write W. Newbold Ely, Lt. U.S.C.G.R., Ambler, Pa.



Photo by Henry Schell.

It takes readiness. It takes practice. It takes mental adjustment.

Game in National Defense

By J. R. Mattern

A MacARTHUR report tells us it is the Oregon, Washington and Idaho National Guard, along with Australians, now giving the show in New Guinea; and getting the required results. They are taking all the Japs can give, and exterminating them in return.

Now, our Northwest is a game country, and our Northwest National Guardsmen are just natural hunters. They are familiar with rifles and shotguns; and with the idea of bagging game. They are used to the talk and the thought and feel of real shooting. They are only one or two generations away from the pioneers who shot to live. There is no doubt whatever that the shooting idea bred and trained into these men is a factor in their New Guinea success.

Pennsylvania's six hundred thousand hunters, and the wild game that keeps them shooting, are huge contributions to National Defense. The five or six million animals and birds added to the food supply, and the recreation derived in the outdoor exercise, are actually second and third elements of importance. The New Guinea picture tells what element comes first, carries a grim warning to the ineffectual hunters, and especially warns those good folks who do no shooting.

You've got to grasp mentally, and take into the field, something more than the soft, easy, gentle, comfortable spirit. Lazy contemplation of the wild creatures, with no harm to a hair of their heads, nature study, camp comradeship, sentimental looking at the scenery, while keeping your gun in its case (if you own a gun), may keep you thinking you are a Desirable Citizen, but leaves you a cypher in defense of these very pleasures and of your country.

Last fall four hunters looking for grouse walked along a woods edge. Two big brown birds boomed up and circled in the open. One man snapped a shot without aim; the other three failed to shoot at all, because: "No good chance offered." Three other hunters with rifles drove a hundred miles one afternoon in December to a deer section. They stopped to hunt a familiar hillside. In half a mile of walking they saw five tails flickering away—white and brown ghosts now here, now there, for that second or two it takes a rifleman to connect. Not one of the three fired a shot. No one was ready.

You've got to own guns, and be willing and able to shoot to kill, for your own survival and for the life of your state and nation.

You must be mental- and physical-man enough to go into the field with a gun poised in your hands, to stalk and manoeuvre yourself within range of game, to see it, to swing your gun in line with the moving animal or bird with your eye precisely in the sights and your finger pressure smoothly built up and timed—and actually to hit the game. It takes readiness. It takes practice. It takes mental adjustment, and a hard slant of thought. And its ramification extends through the whole scheme of work and law and defense of our country.

The kind of shooting that saves your life in combat and wipes out the enemy is simply tightened-up hunting shooting, although it is the opposite of happy-go-lucky, sloppy gun work indulged in by mere recreationists.



Happy-go-lucky, sloppy gun work didn't bag this splendid trophy.

It includes precise holding and aiming, careful trigger squeeze, plus a knowledge of your bullet's flight. It includes, also, the knowledge that a running Jap at 300 yards distance may call for a lead of nearly three feet with the 30-1906 cartridge; or double that with the army's new little light 30-calibre carbine. When educated, your eye and hands almost automatically place the aim three lengths ahead of a truck going 30 miles an hour at a point 500 yards away from you. You find yourself placing bullets with confidence one foot over the heads of your own buddies as protective barrage; or into eye-slits in towns where non-combatants and your friends complicate matters.

Most of all, both effective hunting and military shooting call for that mental readiness that somehow seems to take years to plant in a man.

Two and three years ago the English were pitifully pleading for guns—any guns—to use in arming the home folks. For a hundred years the English had been disarming the general population, and killing off their gun knowledge. It took a mauling and the threat of more of it to get the English authorities back into a state of mind needed to take care of themselves and their citizens. Even today they still have to confine their arms to a relatively few people in each community because of the difficulty of training totally gun-ignorant people to shoot effectively.

Today we in the United States as a whole are paying a very high price to get back in arms to where we have to be for safety in this rough, tough world. Most of us have drifted into bogs of "safe" thinking. The real reason for the Pearl Harbor fiasco is that our brass hats got too much occupied with the soft and fancy by-products of their work—and drifted too far away from the art of quick and deadly shooting.

You can't permit the police to volunteer to do the whole job of protection, by taking your guns and your knowledge and skill in shooting away from you. Indifference and expense, plus restrictions on guns, have made Chinamen out of too many of us already. It

(Continued on page 30)



Photo courtesy Walter J. Schoonmaker.

The beaver is the largest rodent or gnawing animal in North America.

The American Beaver

THE Beaver (Castor canadensis) is the largest rodent or gnawing animal in North America and the most interesting fur-bearer in Pennsylvania. It is a heavy bodied, compact mammal, with broad, flat, naked tail, and very sharp, chisel-like, orange colored incisor teeth. His fur varies from a pale buffy yellow to a brownish black, the latter being considerably more valuable commercially. The hind feet are very large and fully webbed, and the second toe from the inside is equipped with a double nail which is used to arrange the hair and comb out lice, with which they are all afflicted. The tail is a remarkable appendage, being from nine to twelve inches in length on an adult animal. It is used as a brace when the beaver sits or stands up to gnaw trees, as a rudder while swimming, and to slap the water as a warning signal to other beavers of approaching danger.

In size, an adult beaver is from thirty-two to forty-two inches in length from the tip of his nose to the tip of his tail, and fifty pounds is an ordinary weight. Ernest Thompson Seton in his "Lives of Game Animals" tells us that a very large, fat beaver that he knew of weighed 110 pounds. Outwardly there is nothing to distinguish the sexes of the animals except when the female is suckling her young, then her four or more teats can be seen between her fore legs. There are several sub-species but the one we are interested in because of its presence in Pennsylvania is the American, Castor canadensis.

When white man first set foot on Pennsylvania soil the beaver was present in far greater numbers than it is today. However, with the increase in population, the increase in manufacturing with its resultant polution of streams, as well as added hunting and trapping pressure, it disappeared from our streams and lakes. For over fifty years there were no records of them in Pennsylvania, then in 1901 they reappeared in Monroe County. With complete protection, although its range in Pennsylvania was greatly reduced, it thrived again, there being an estimated 3,000 in thirty counties of the state in 1926. By 1934, they were considered numerous enough to declare an open trapping season and in that year 6,455 were taken. The numbers decreased for several years, due to trapping, but the population now appears to be rather stable.

Young beavers leave the parent colony in their second year and proceed in quest of a mate. Once a mate is found, housekeeping is immediately set up, beginning with the location of a proper home-site, the building of dams and canals, and the construction of lodges. Mating usually takes place in late January and early February, the kits being born about three months later and numbering from two to eight. At this time, while the young are in the lodge, the male may leave the home and take up housekeeping by himself in a bank burrow. The young stay with the parents about two years, leaving the colony some time after the next litter is born; thus, a typical beaver colony consists of the parents, the young of the previous year, and the kits of the present year. Being monogomous, they mate for life.

For the establishment of a home, the animals prefer small sluggish streams and small lakes with clay banks which are well wooded with aspen and willow. They will travel as much as twenty miles in search of a suitable home-site. However, once the proper location is chosen, they usually limit their travel to about a half mile from home, both upstream and down. Deep water is a requirement for the establishment of a home. If water of the desired depth is lacking dam building will commence.

A beaver dam is a work of art, an engineering feat requiring great skill, and is made from materials close at hand; stones, sticks, grass, and mud. The sticks are carried in the mouth and usually thrown over the animal's back. Stones, mud, and grass are carried in the front feet and arms against neck and chest. At the site of the dam the sticks are placed with the large ends downstream, held down with stones and mud; these sticks to serve as the framework and support of the dam. The animals place the mud and grass in position with their feet and when finished have a water tight dam. An active beaver dam is usually full, breast high, with water, as the beaver is quick to sense any change in the water level and make repairs to the dam. Although nocturnal in habit, a beaver will set about immediately to inspect and repair any damage to its dam, regardless of the time. A family may construct several dams with several lodges and may have many canals connecting them, the canals providing passageways for the transportation of logs and branches from distant points. Usually the dams are constructed on small streams, but Seton tells of one dam in Yellowstone Park which was 700 feet wide. The highest dam that he knew of was twelve feet and the longest canal was 1,195 feet long. If a beaver builds a dam more than fifty feet across it will curve the dam upstream, thus adding to its strength, as dams built in this manner are able to withstand greater pressures.

The lodges are usually built some distance from shore, in deep water, and are constructed of the same materials as the dam. An underwater entrance is provided so as to have access to the winter food supply below the ice and as a means of escape from danger. At the terminus of the passageway into the lodge there is a large chamber, about seven feet by two and a half feet, in which the young are born and the family passes the

By James A. Brown[1]

percentage of this diet is made up of fleshy fruits and stems of water plants. The food habits naturally vary with the locality and type of food available; in Pennsylvania a large percentage of the food consumed is aspen. Usually they do not venture far from water in quest of food. When a desired tree is found a beaver will sit or stand on its hind feet, balance himself with its tail, and gnaw around the tree until it is felled. If some distance from his dam, the animal will make use of its many canals to get the food to the desired location.

After the bark is used as food, the remainder of the woody part is used for many construction jobs. Due to ice covering the ponds in the winter months it is impossible to have access to food on land. Looking forward to this, it wisely stores a winter supply at the bottom of the pond. The means by which food logs are water logged and held under water are not clearly understood. One possible explanation is that it may be anchored by placing an end in the mud or under roots.

The animals are not ordinarily subject to disease, although Seton reports an epidemic, described as distemper, which killed most of the beavers on the Upper Red River about 1800. Some are killed each year by the black bear, timber wolf, bobcat, lynx, otter, and fisher, but it is believed that these creatures, those which live in Pennsylvania anyway cause little mortality among the beavers. Lice are present on all beavers and, although not fatal, cause them considerable annoyance.

In Pennsylvania there are four problems that must be considered in the management of the beaver: the competition with trout on many streams; maintaining a population which provides a maximum, relatively stable surplus; establishing a population which provides a surplus in regions where they have been exterminated or reduced below the carrying capacity; conflict with farm use of valley land.

Before trying to set down specific ways and means of attacking the four problems, let's look first at some general requirements and technique of beaver management.

First, it is necessary to know the location and numbers of the animal; this is accomplished by making a census. Bradt (1938) found in Michigan that an average Beaver colony has a population of 5.1. A Beaver colony with no lodge will average 2.4 one with one lodge 4.0, and one with two lodges 6.1. Using the above figures for our computations, we can, by counting the number of colonies, compute the total population without too great an error. To take the census we should count the number of colonies, being careful to observe the number of lodges, and check our computations by investigating the tracks, or computing the animals at dusk. A survey of active dams can best be made in early winter.

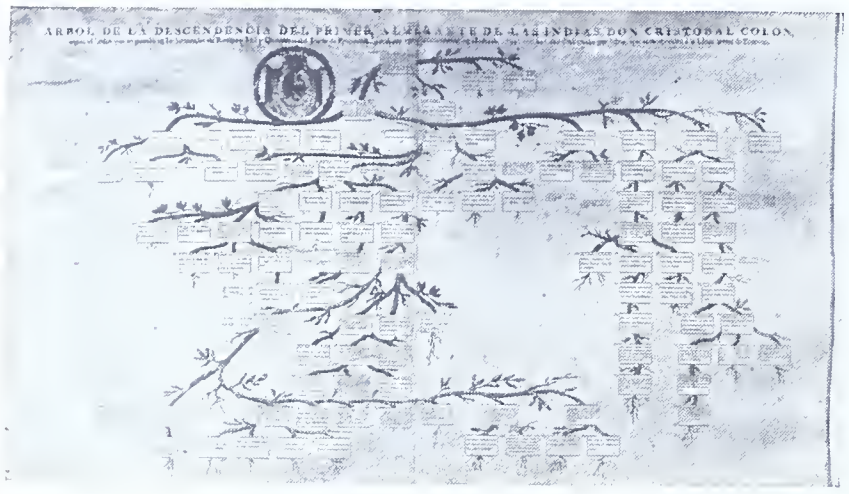
The next step is a survey of food conditions. Approximately thirty ounces of aspen bark and twigs are consumed daily by one Beaver. For food Hiner (1938) found that beavers will travel an average of 267 feet

(Continued on page 18)

[1] Written while a student at the Pennsylvania Game Commission Training School.



Photo of beaver dam in Clearfield County, between Driftwood and Clearfield, taken from the air by the Sidney S. Koch Specialty Advertising Company, Altoona, Pa.



The above is a picture of "The Family Tree" of Christopher Columbus, prepared in 1793. The wife of Col. Boal was a direct descendant of Columbus.



Iron ore "pits" in the "Barrens." Thousands of tons of ore were removed by Andrew Carnegie and others.

Portion of Famous "Barrens" in Centre County Acquired as State Game Lands

Photos by the Author

THE Game Commission, in December, 1942, acquired title to 5,108 acres of that exceedingly interesting section of Centre County called the "Barrens." Because of the unusual character of the area and its historical background, this section is well known to all persons who were ever connected with Pennsylvania State College, as well as sportsmen throughout the State. The acreage acquired is in Ferguson, Half Moon, and Patton Townships, and lies only four miles, as the crow flies, west of State College. It includes the renowned "River Hill" tract from which Andrew Carnegie secured large quantities of iron ore and the "Ghost" town of Scotia.

The land was conveyed to the Commonwealth by the Estate of Colonel Theodore Davis Boal, through his son the Hon. Pierre deLagarde Boal, present United States Ambassador to the Republic of Bolivia, South America, and Claude G. Aikens, Executor of the Colonel Boal Estate. It comprises three tracts containing respectively 4,811.2 acres, 279.3 acres and 17.5 acres. The two first mentioned tracts lie adjacent to one another, but are mentioned separately since the 279.3 acres, known as the "River Hill" tract, was a gift to the Commission, subject, however, to a reservation of mineral rights to April 14, 1952. The 17.5 acre tract is detached from the aforementioned tracts, but is adjacent to 703.9 acres purchased several years ago and designated State Game Lands No. 176. The entire acreage acquired from the Boal Estate is now part of State Game Lands No. 176, bringing the total of those lands to 5.811.9 acres. Attention is invited to the map of State Game Lands No. 176 found on page 7.

Sportsmen and the Commission are fully justified in taking pride in ownership of this rather unusual tract of land, and its acquisition appears decidedly pleasing to Pennsylvania State College authorities. Incidentally, we are indebted to a graduate forester of State College, Walter F. Westerfeld, recently located in Cumberland, Maryland, for much of the interesting information contained in this article. His generous contribution is greatly appreciated.

In all probability the first impression of the "Barrens" gained by a stranger is that of a desolate waste, covered with an almost impenetrable growth of scrub oak interspersed with clumps of aspen, dense patches of huckleberries, grassy depressions and occasional clumps of scrub pines. (See illustration on page 25.) Only the ridges of the north and south sides show growth resembling a forest. He will not soon forget the monotonously rolling topography, and the feeling of depression that befell him on his first visit. The vegetation expresses a struggle of nature to overcome the shortcomings of man; a vegetation crying out against man's misuse of this land in the past. The inclination of the stranger, probably, is to leave before being overcome by utter loneliness. But on a return visit, and many do return, he feels the peculiar charm of the area, a sad sort of charm perhaps, but charm nevertheless, one that draws him back time and again, even though it is only to convince himself that such a place really exists.

Many wonder how the name "Barrens" originated; a question that seems to have no definite answer although it is possible the Indians originated it when they found their corn patches comparatively unproductive. The term "Pine Barrens" is frequently noted in historical references. Thomas Smith, Deputy Surveyor of Bedford County, who surveyed warrantee tracts of land in what is now Patton Township, Centre County, in 1770, mentions the area south of Buffalo Run as "the great Pine Barrens." This name was likewise used in another survey report of July 26, 1794.

Strictly speaking, the name is misleading and somewhat unjust. Granted that the watertable is low, and that the sandy clay soil is too poor for agricultural uses, nevertheless the area has in the past, and can in the future support good forest growth if given protection from forest fires, and encouragement through the application of appropriate forest management practices. Accounts of early settlers and travellers mention the fine chestnuts, oaks, and pitch, white, and yellow pines which this "barren" land supported. But today, when the "Barrens" are mentioned, the name seems to carry with it a sound of accusation and contempt. Perhaps, instead, the name should be spoken in shame because, after all, it was man to a large extent who made the area what it is today.

The area attracted special attention of French explorers in 1790. They reported the vast acreage in the center of Pennsylvania which had a peculiar geological formation, mostly sand and clay, while all the surrounding country was limestone. It is peculiar that the "Barrens" should comprise a broad strip of unfertile land within the very fertile Nittany Valley. It might be likened to a table, rising 100 to 300 feet above the surrounding farmland. Evidently the French explorers did not discover the presence of rich deposits of iron ore in this section, although the Indians seem to have had some knowledge of its existence.

Wildlife is and apparently always has been abundant in the "Barrens." Sportsmen frequently call the area the "Exmoor" of Pennsylvania, after the famous hunting grounds in Devonshire in England, because of the large deer herds and the magnificent heads carried by the bucks. It was favorite hunting territory of the Indians, and according to Colonel Henry W. Shoemaker, the renowned historian, was the last retreat of the Shawnees of Centre and Blair Counties. Long after they had vanished from other parts of that region, a few lingered in the "Barrens," loath to leave, while others camped there when migrating across the State. It is recorded that the pioneer hunters of the "Barrens" disliked sharing this grand hunters' paradise with the Red Men, and if an Indian hunted alone and met a white nimrod, chances were the Indian would go the way of the buck. For this reason, according to our good friend Col-

By W. Gard Conklin

onel Shoemaker, the Indians hunted in two's and three's; one always on watch for his companions. The Red Men ascribed the fine heads of the deer in the barrens to the tonic effect of the iron impregnated waters, and also claimed that ruffed grouse and wild turkeys found there were exceptionally large and robust.

Last year more signs of deer were observed in the "Barrens" than anywhere else in Centre County. The mud flats, (See illustration on page 24) formed by wash from the iron ore in past years, were tracked as though by flocks of sheep. According to Dr. P. F. English, of the Cooperative Wildlife Research Unit, Pennsylvania State College, one deer to 18 acres was found in 1938 on a sample plot of 1,344 acres in the "Barrens" as compared to one deer to 116 acres within other good deer range.

Woodcock are reported unusually abundant and many nest and spend the entire year there. Some quality in the vegetation, or the large diversified insect crop seems to attract them during their migratory flights. During an investigation of the woodcock situation made by the Wildlife Research Unit of Penn-State, a stuffed female woodcock placed in an opening was approached by more than two dozen wild birds in a few hours.

The "Barrens" are renowned as wild turkey territory, with many of these splendid game birds present. Ruffed grouse, raccoon, grey squirrels all provide good hunting within this area, and even a few ringnecked pheasants are occasionally seen. It is one of the most popular hunting grounds in Centre County.

The first definitely known inhabitants of this section were the Shawnees Indians in 1698. Some authorities are of the opinion that prior to this time, central Pennsylvania may have been in the possession of the Muncy Tribe, one of the Delawares, before they moved westward in 1728. Evidently, part of the "Barrens" was included in the purchase unit from the Shawnees in 1754, the rest being part of the 1768 purchase. After purchase from the Indians, the area was incorporated within Cumberland County where it remained until 1772 when it became a part of the newly created Northumberland County. Another transfer was made in 1789 when Mifflin County claimed the central section of Pennsylvania. In 1800, Centre County was created and since that time the "Barrens" have been within that county.

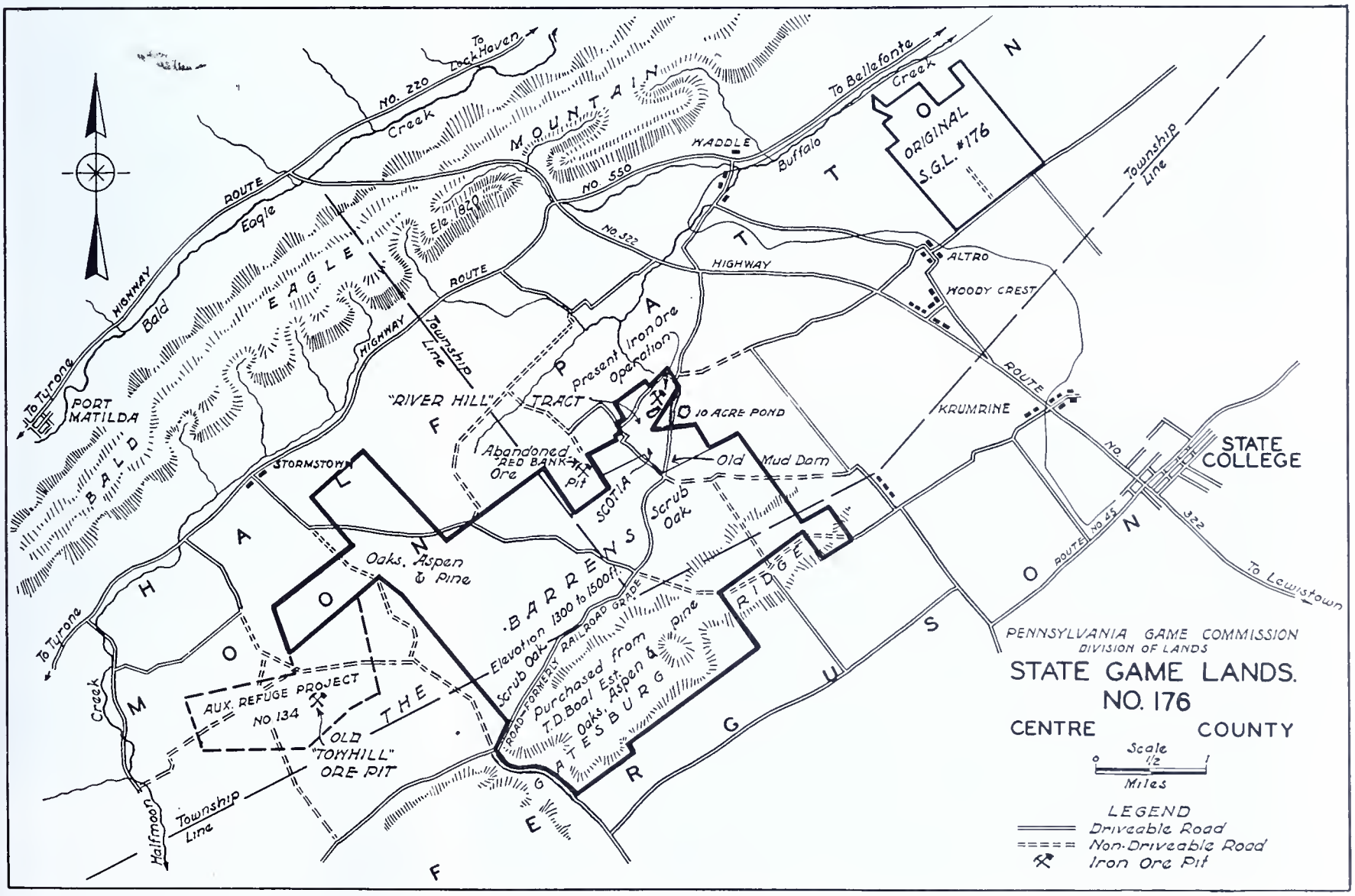
Abraham Elder selected a site for a home in Half Moon Township in 1784, according to reports, and so to him goes the distinction of having been the first white settler in the "Barrens." A son of Abraham Elder attempted to settle in Patton Township. He and his father travelled around to find a likely place but when they found one, an Irishman from Filmore, a mile or two away, made his appearance and told them in no uncertain terms that he did not want such a close neighbor. Evidently, Patton Township was not settled until the Gray and Hartsock families located there in 1788. The Hartsock home later became the haven for runaway slaves enroute to Canada.

These early pioneers were soon followed by others, and small settlements sprang up in the more fertile areas in the Nittany Valley surrounding the "Barrens." Most of the early settlers purchased their scattered claims directly from the Commonwealth of Pennsylvania, and were issued warrants and patents. Some of these claims are still in the possession of their descendants.

About three-fourths of the area now acquired by the Game Commission was known as the Tussey Furnace Lands from about 1800 for a generation or so. Later on, Tussey Furnace became part of the Pennsylvania Furnace Company's holdings. Other names in the chain of title are Barnetts, Shorb and Company; Lyon, Shorb and Company; and Shorb, Stewart and Co. In 1878, partition proceedings were instituted, and in 1884, the lands were sold to the Tyrone Mining and Manufacturing Company.

In 1903, the Tyrone Mining and Manufacturing Company conveyed to Daniel M. Bare and others, trading as D. M. Bare and Company, manufacturers of paper. The D. M. Bare and Company partnership later be-

(Continued on page 24)



Some Census Methods for Game



Photo by C. Gordon Krieble.

One of the most accurate methods of taking mammal census is to live trap the animals and release them after numbering and marking them.

IT is very difficult to obtain an accurate census of mammals even on a small area. Many species are shy and avoid man. Many forms are nocturnal, and most of the smaller individuals use ground burrows or holes in trees, in which they spend most of the daylight hours. Nevertheless techniques are constantly being developed for making counts of the numbers of various game species. Although there is much yet to learn about how to obtain a satisfactory count of many mammals, good progress is being made in developing useful census methods. (4)

Direct Enumeration of Whole Areas or Samples

Jack rabbits, since they live in open country, have been counted over a strip 500 feet wide from a car traveling at 10 to 15 miles per hour. Several such counts in one region covered an area of approximately 14,448 acres, on which 767 jack rabbits were recorded, or 0.053 per acre. (1)

The rabbit drives held in the west give a good census of abundance on an area. A drive at Roberts, Idaho, in the winter of 1924-25, covered 8 square miles. The census revealed 5000 jackrabbits, or a population of about 1 per acre. The leakage was estimated at less than 5 per cent. The next year, when jackrabbits were at the peak of their cycle, several smaller drives covering about a square mile were made; each showed 2-4 jackrabbits per acre. (8)

In Pennsylvania, the Game Commission has organized cottontail rabbit drives to obtain rabbits from overpopulated areas, to be distributed on ranges having a less dense population. The drives were made by sportsmen directed by game wardens. In many cases these drives have been only fairly successful. The cottontail rabbit does not live in such open areas as the jackrabbit

Game Mammal Census

and therefore the leakage is much greater. Due to this excess of leakage, census of cottontail rabbits by drives does not give an accurate count of the population, but it does give an indication of the relative abundance of rabbits inhabiting an area. This census method may also have a great error if the drives are made on poor days when most of the animals are "holed up."

In Region 9 of the Forest Service satisfactory deer census has been taken by drives over definite areas. Since CCC crews have been available to furnish the large numbers of men needed, many similar drives have been conducted throughout the country. The areas must be representative samples of the region so it is first necessary to have a plant-cover type survey of the entire area. The plots should be between 200 and 350 acres, and preferably triangular in shape.

"As many as 150 to 200 men are necessary for a deer drive, and the success of the drive depends a great deal upon the placing of these men and the care with which they operate. Men (watchers) are quietly placed according to visibility along two sides of the triangle. The drivers some 30 or 40 feet apart form a line in good formation on the third side of the triangle, and advance coming closer and closer together as they approach the apex of the triangle. Each man, watcher or driver, counts each game individual that passes him to the right and between him and the next man. If an animal returns within the triangle it is also counted as "in," so that the net count shows only animals originally within the area and actually driven from it." After the drives are made the results are apportioned to the total acreage and a fairly accurate census of the deer on the area is obtained. (1)

Perhaps the greatest objection to this type of census is the high cost of making the drives. If it were not for the CCC crews such census would be financially impossible.

The airplane has been used successfully in censusing antelope, bighorn sheep, mountain goat, buffalo, deer, elk, and caribou. William H. Marshall, of the Biological Survey, designates certain points to be considered in airplane censusing:

1. Slow planes are desirable. Those with speeds higher than 90 miles per hour carry the observer over the territory too rapidly.

2. Low altitudes are essential. At 500 feet or less, one can see all the animals if the cover is not too dense and they are not too protectively colored. At 100 feet most of the animals start to move so that they may be seen readily, but this may be a disadvantage when there are large numbers since they mill around, the separate groups are lost sight of, and duplications in count are likely.

3. More than two observers are undesirable, because of possibilities of duplications.

4. A knowledge of the topography and

By Allan T. Studholme

Continued from last month

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plant cover of the country to be covered is essential.

5. The pilot should be informed in advance, insofar as possible, exactly what area is to be covered and how.

6. The observer should have had field experience with the animals to be censused.

7. Clear, still weather is desirable. (1)

This system of censusing deer was used at State College, Pennsylvania, in January, 1939. The censusing was done in about one and one-half square miles of scrub oak type located in the "Barrens." There was from 8 to 10 inches of snow on the ground and the deer were easily distinguished by the observers "flying" at an altitude of about 500 feet.

Airplane census for big game mammals is proving to be one of the best methods of obtaining accurate population data. It is a great deal cheaper and faster than the drive method, and under favorable conditions is more accurate. The main objection to airplane census is that it can be accomplished only under favorable weather conditions when there is snow on the ground. Areas of dense evergreen cover can not be censused by airplane and if an area has many patches of such cover, the census figures will be incorrect.

U. S. forest service ranger Eldon Ball made a winter deer census by airplane on the Ochoco National Forest in central Oregon. He covered approximately 125 miles of range flying at about 50 miles per hour at an altitude of 500 feet. A relatively accurate deer census was obtained for a quarter of a mile's distance on each side of the course. This method of census has proved an invaluable check on mule deer estimates made by federal and state agencies, and has also shown cases of depletion from disease, predators, and lack of food. (3)

"An example of direct enumeration of mammals which form detached herds of comparatively fixed composition is Ligon's (1927) census of antelope in New Mexico. Most of these herds are so small and isolated that the maximum number seen together at the inhabited spot constitutes a reliable census." (8)

Direct enumeration is sometimes possible in mammals that are forced into the open during severe snows. "Simultaneous counts on open areas used during such periods constitutes a dependable census." The Yellowstone elk have been counted this way at intervals since 1912 by the Forest Service, Biological Survey, and State of Wyoming. (8)

The removal of 22, 362 deer from the hoof-and-mouth disease area on the Stanislaus National Forest, California, gave a nearly complete census of the deer inhabiting this 1142 square mile range. The removal was accomplished in three years from 1921 to 1923. Since it took this long to remove the animals, the influx is probably great. "This is probably the most accurate deer census figure for a large area so far available in America." (8)

Deer can be readily censused, in regions where they yard, either by observation of the animals in the yards or by counting the tracks leading into a yard after the first heavy snow.

It is necessary, when using such a technique, to know from what areas the deer in the yard migrated. Otherwise an accurate census of the animals inhabiting the range would be impossible.

In regions where there are no yards, a fairly accurate census may be made by tracking the deer on fresh snow. At intervals of 1,000 feet or less parallel compass lines are run. When tracks are found they are followed until the number of animals are certain. A type map is a great help in determining if there are any mistakes due to recrossing. It is possible to allow for such recounts after the tracks are plotted. This method is useful only with low population densities; in heavily populated areas it is impossible to unravel the tracks. (11)

Censusing from an automobile by counting deer seen per hour has proved unsatisfactory. The amount of traffic, time of day, visibility, local migrations of deer, and season are some of the complications that distort the results of such a census.

Ratios Based on Trapping, Banding, and Later Recapture of Sample Individuals

One of the most accurate methods of taking mammal census is to trap the animals in live traps and release them after numbering and marking them. This method is advisable only for small game mammals and even then requires a great amount of labor, and rarely are all the individuals on an area caught. Some species are very shy and trapping is impracticable when dealing with them. (4)

Grinnell devised a method of determining the abundance of small mammals in terms of "trap-nights." The number of traps set in each area is multiplied by the number of nights they are set. Many difficulties arise when using "trap-nights" as units of measurement of the abundance of a species. All trappers are not equally skilled; the weather conditions greatly affect the movements of animals; the traps vary in their effectiveness and efficiency, and the number of animals caught usually decreases each time the trap-line is set. (4)

Trapping has often been successfully used in censusing cottontail rabbits on small areas. The Pennsylvania Game Commission in 1930 trapped 122 cottontails on Barbadoes Island in the Delaware River opposite Norristown. The 49 acre island is isolated for rabbits and there had been no hunting. All the animals were not trapped and wardens estimated 50 rabbits left on the island. This gives a probable population of 3.5 rabbits per acre. The error due to influx is ruled out on such an area and the only possible source of an error is the estimate of the animals not trapped. (8)

If trapping is to give accurate information of population, the area selected must be isolated to avoid error from influx. One can not be too careful in selecting an area to be trapped, otherwise his results may give a false idea of the population.

Deer, bear, moose, and elk are large game mammals that have been trapped and tagged. In these instances the animals were trapped on overpopulated areas and moved to less densely populated areas. Censusing these large mammals by this method, although it could be done, is not attempted because of the high cost and great amount of time involved.

Observations of the Density of Populations Through the Use of Indices

One of the most unique index methods was developed in censusing jackrabbits in Arizona by Taylor and Vorhies. They compared the number seen with the number of cattle seen, and then compared the ratio with the known number of cattle. They counted the number of jackrabbits seen for each cow seen in a fenced pasture within

(Continued on page 30)



Photo of several deer from the air taken by the Sidney S. Koch Specialty Advertising Company of Altoona, Pa., while flying low over the forest area of Clearfield County.

Would You be a Trapper?



Photo by S. V. Sedlak.

Some of Pennsylvania's hustling fur trappers. Photo taken near Emporium at the Second Annual Trappers' Convention.

IN THE Springtime that is hardly a suitable question to ask. We look forward under normal times to gayer things, and trapping becomes more or less a dead issue. However, the men who reap the greatest benefits of this fascinating pursuit are the ones who take advantage of every available opportunity to learn all that they possibly can while they have the chance.

For example, just one year ago this time a young fellow, a high school student, hunted me up for information upon the subject on the recommendation of a game protector. This young man asked me many questions during the few hours of our initial get-together, and I experienced some difficulty in trying to get him to leave even after several hours of discussion had elapsed. He was determined to learn all that he possibly could in the least amount of time. Since then he has called upon me many more times, and we have been in the woods together upon several occasions. He always has more questions to ask. In the course of time he will become a real trapper. He has the stuff that it takes. Last Fall he made a nice catch of fur-bearers, mostly muskrats, but he has his mind set on bigger things. I told him to go easy in the beginning, not to get too excited about pursuing larger animals until he acquired skill in catching the smaller and more common fur-bearers.

If you have never set traps for fur-bearing animals, but have had a hankering to try it sometime, perhaps this will be the opportune time to familiarize yourself with the multitude of facts pertinent to the subject. In bringing this treatise to the attention of the sportsmen of Pennsylvania I am well aware of the fact that some readers may disapprove of such a discourse because they have no use for a trapper or because they feel that a trapper is a detriment to their own self-interest. Fox hunters and 'coon hunters, particularly, are apt to conceive the wrong impression since trappers are their competitors. Fox chasers are even more apt to feel opposed to even the mention of fox trapping. It is my desire to be fair with all concerned.

There are many places within our 45,000 square miles of hunting confines which harbor the various species of fur-bearing animal life, and that gives ample room to chase, to hunt, and to trap. A good wildlife management program, therefore, should merit a carefully plotted trapping plan. For instance, the use of the steel trap can be abusive and remain the subject of intolerance and even trouble for an indefinite time. On the other hand, understanding and care could in the course of time wipe out much of the intolerance, and at the same time be the means of eliminating some of the unscrupulous ways of dealing with the steel trap.

Our fur-bearing animals are a valuable natural resource. They have their rightful place in the natural order of things, but time and the progress of civilized peoples have altered the wildlife situation. Some of the species of fur animals that used to live here are now extinct. Organized trappers have discussed the potentialities of restocking. Beavers were wiped out forty years ago, but limited restocking by the Game Commission from 1917 to 1924 not only resulted in re-establishing the animals in Pennsylvania but subsequent open seasons added revenue to trappers and sportsmen. And with the beaver dams, beaver houses, and beaver cuttings came an improved natural effect on waterfowl and muskrat environment. The beaver is comparatively easy to trap, and if too many colonies results in detriment of one sort or another the animals can and should be controlled. On the other hand as far as muskrats are concerned there is no apparent objection to any increase of their colonies.

It is to be understood, of course, that all these animals, except beavers and muskrats, also share in the depredations on small game animals such as rabbits, squirrels, woodchucks, quail, pheasants, grouse and turkeys because this is in full accord with the plan of nature. And we cannot change that. But we can provide a better, a more responsive means of fur-predator animal control through the wider and intelligent use of the steel trap. Naturally, we revert back to the question—would you be a trapper?

To become a trapper one need not outfit himself with an expensive array of equipment. Even one-half dozen steel traps would suffice for a beginning. One or two hours of daily attention would do in attending to a spare time trapline. For your efforts you would be repaid twofold. You would get the fur and, as in the case of a predator, you would give material aid in control. That is up to you. Youth is inclined to be more inspired but there are a few old-timers who still follow the fur trails with



Photo by S. V. Sedlak.

A morning's catch of beavers.

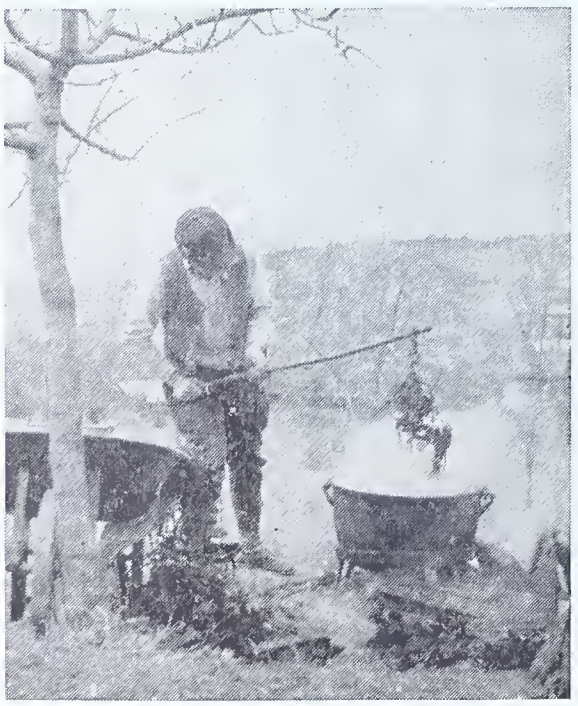


Photo by S. V. Sedlak.

Trappers boil their traps to clean them of foreign odors.

By S. V. Sedlak

Editor's Note: This is one of a series of trapping articles that well known follower of the Trapline, S. V. Sedlak, President of the Pennsylvania Trappers Association, plans to contribute in the next several issues.

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a pack of traps on their backs right here in Pennsylvania. The quest for furs, the rich, silky peltry of the creatures of the wild originated here away back a few hundred years ago and that, as a matter of history, makes it the oldest occupation within our confines.

If it is in your blood, you will succeed. Determination, pluck and the will to work; a sacrifice of some of the ease and comforts of life, and endurance—these are the qualifications that count.

To begin with, we will assume that your secret ambition is to get a hold on a fox. Now a fox is not "duck soup" by a long shot. Once in a while one is apt to go astray of its inherited cunningness but, as a rule, you will find it to be a very shrewd, suspicious animal.

If you would be successful next Fall, it is advisable to get some fox bait ready now—in the Springtime. The common house cat is generally recognized as good fox bait. First, of course, you must procure the household pet, and you should have no difficulty in doing that. *Homeless* cats can be knocked off with the .22 rifle or pistol in almost any small game locality, or you can use one that had been bumped off on the highway or take care of the one which you or your neighbor has no further use for. Then eliminate adhering contamination by thrusting the whole animal into some clean water. Pick it up by the hind feet, throw the water off by a few quick jerks and then hang it up some place to dry for a while.

When it has dropped off pretty well take it by the hind feet again and with the aid of a knife slit the belly open to disembowel it. When the entrails are removed hold it by the hind feet, as usual, and place it across a block of wood; then with the aid of a small axe or hatchet chop it up, fur and carcass, into pieces about the size of a half dollar. Get yourself two or three pint-size mason jars with screw tops on, or something similar, to hold your bait. Discard all feet and tail. Pick up all the rest of the housecat with the aid of a pronged stick, piece by piece, and pack lightly into your containers up to the brim. Screw the tops on, securely, but not air-tight. Make an excavation of about one cubic foot in your backyard or at any place convenient to use and place your filled containers into the hole in an upright position. Replace all of the earth, pack it firmly, and you will have about six inches of it as a cover to protect your bait from molestation. Mark the spot, so you will know where it is when you need it. Time and the penetrating heat of the sun will do the rest.

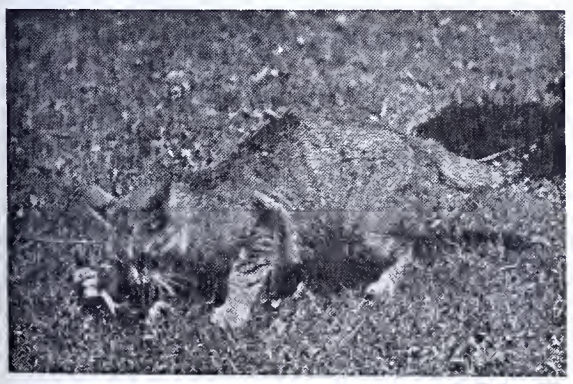


Photo by Dr. Chas. S. Apgar.

Stray unwanted cats can be "eliminated" very easily, and they make excellent bait.



Photo by Roger Latham.

Geo. E. Abbott, Deputy Game Protector, Honey Brook, Chester County, with fine catch of "rats." George drives a school bus 45 miles a day, takes care of an 18 room High School building, and helps Mrs. Abbott out with gas station and lunchroom, of which he is the proprietor. The trapping was done in his spare time.

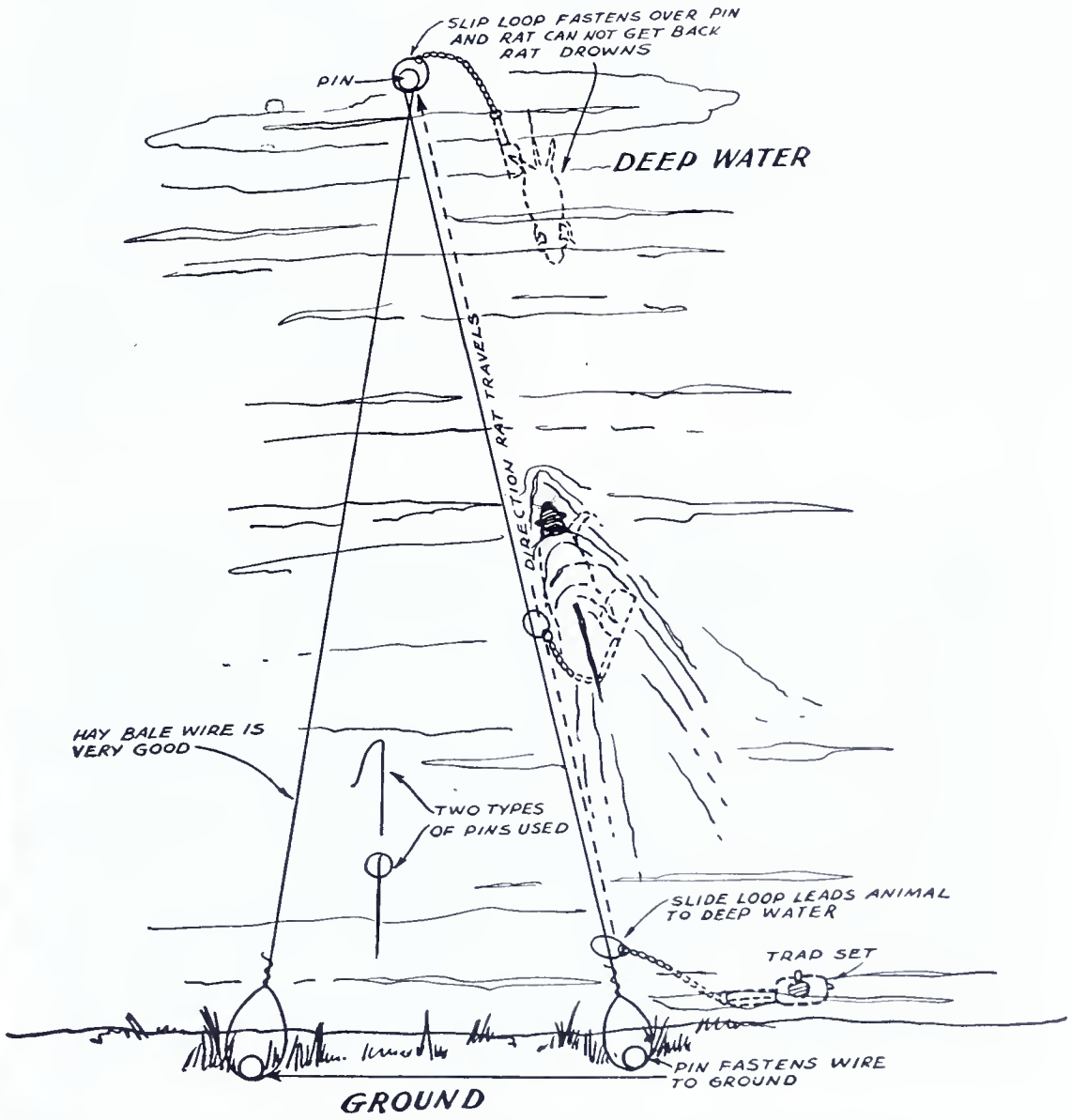
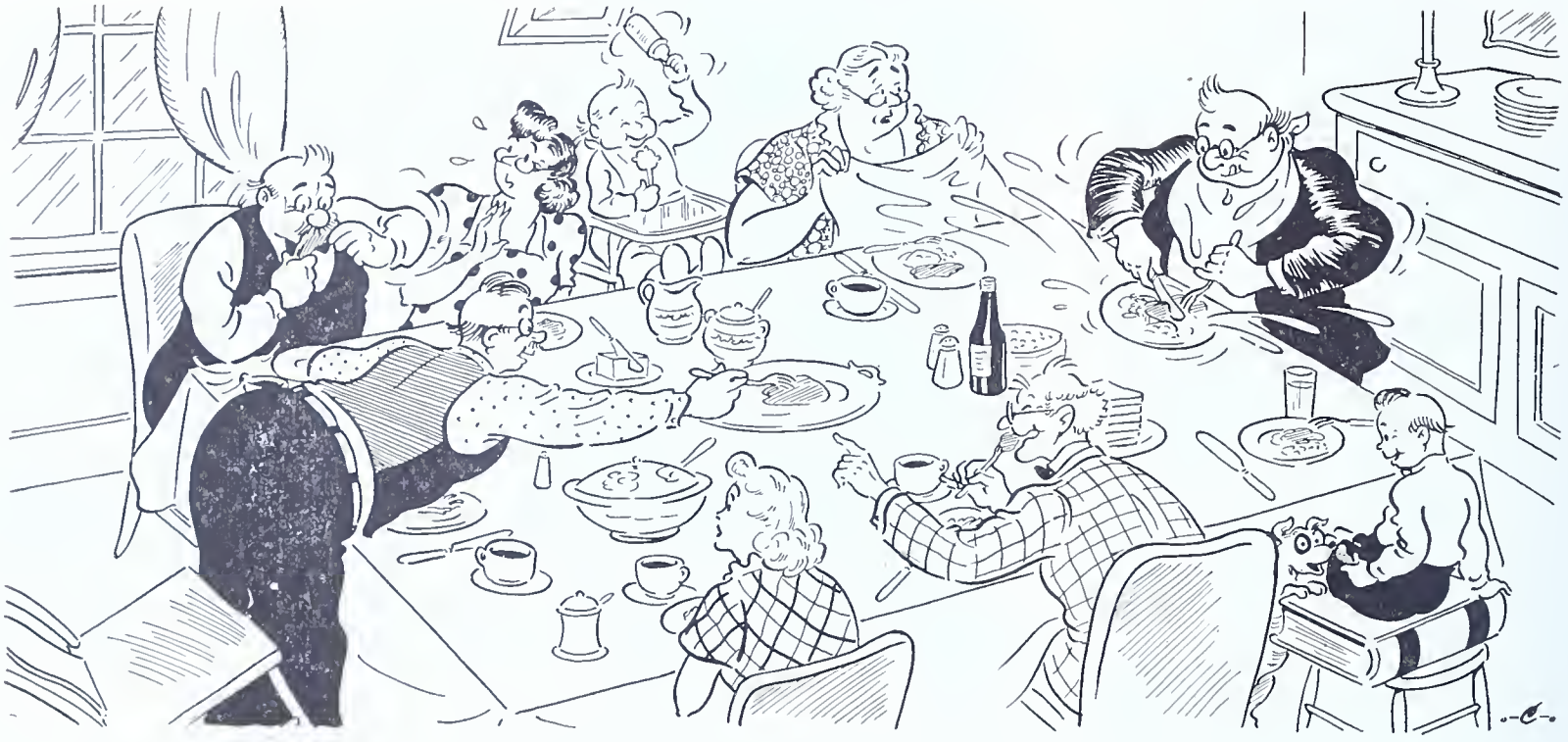


Illustration by Capt. J. G. W. Dillin

Diagram showing how to arrange set to trap, and drown, muskrats.



The family and friends of A. Hunter, Esquire, sit down to a meal of "Marsh Hare" prepared by Trudy.

Recognition at Last

By Herbert L. Dozier

Editor's Note: Last month I presented for your enlightenment certain epicurean qualities of the muskrat which I picked up here and there and for which I claim no credit.

BUT I am not the only one carrying the ball for the "Marsh Rabbit." He has a real champion in one Herbert L. Dozier, Director, United States Fur Animal Field Station, Fur Resources, Division of Wildlife Research, who leaves no stone unturned in his analysis of the savory, delectable, possibilities of this lowly creature. In a complete bulletin on the subject friend Dozier lists one after another of mouth-watering recipes for cooking the little animals. Save these recipes for next trapping season and try one of them some time. Don't be squeamish. As Mr. Dozier points out:

"The muskrat is principally a vegetarian and feeds on the roots and stems of aquatic plants, such as cattails, sedges, bulrushes, wild rice, pond lillies, and water weed. Fresh muskrat meat is available during the open trapping seasons in the various states. This period in the individual states extends from November to April, depending upon the State laws.

"The flesh of muskrat is dark red in color, but fine grained and tender. Prejudice against the meat results usually from lack of skill in cooking or from carelessness in skinning the animal. The musk glands often come off with the skin, and only in the summer does the musky odor pervade the flesh. Care should be taken to avoid cutting into the musk glands, and any subcutaneous glands that may adhere to the meat should be trimmed off.

"The carcass should be soaked over night in slightly salted cold water to draw out the blood and reduce the gamy flavor. Weak vinegar also will reduce the "wild" taste and tends to make the meat more tender. In place of the latter, a pinch of baking soda is frequently used.

"Young muskrats, like young rabbits, can be cooked by the quick methods of frying or broiling. The carcasses of older animals need longer, slower cooking. They are excellent served in fricassees, casserole dishes, muskrat pie, croquettes, chop suey, and other ways adapted to mature meat. The recipes given here are typical of the many suitable for cooking this meat and when so prepared it is highly palatable."

Fried Muskrat

Disjoint and cut into desired pieces, parboil for twenty minutes, then drain and wipe with damp cloth. Fry plain in a heavy skillet, or, if preferred, in a smooth batter made by beating one egg yolk with a half cup of milk, adding three-fourths of a teaspoonful of salt, and stirring in a half cup of flour. Dip the pieces into the batter until well-coated and drop into hot fat. As soon as the meat is browned, reduce the heat and cook slowly until tender.

Serve on hot platter and garnish with parsley. A rich, brown gravy can be made by using flour stirred into the pan drippings, adding a little water or milk and cooking until thickened.

Wine-fried Muskrat

Soak overnight in slightly salted water. Drain and boil in fresh water until tender. Pick meat off of bones and fry in shortening. As this is frying, pour over a little sweet wine. Sherry wine is generally used. Some prefer to serve on hot platter and then pour over the wine to flavor.

Broiled Marsh Rabbit

Clean and wash the carcass and then wipe with a damp cloth. Butter thoroughly, then brush with a thin mixture of vinegar and mustard. Dust well with prepared poultry seasoning, place in broiler and broil for twenty minutes.

Smothered Muskrat

After soaking overnight, drain and parboil for twenty minutes. Heat some sausage or bacon drippings in thick skillet and sear meat in it. Season with salt, pepper and chopped onion. Sprinkle with flour and add a little water. Then cover and allow to simmer until thoroughly done.

Maryland Potted or Baked Muskrat

Soak two muskrats overnight, drain and cut into pieces. Pour boiling water over meat, stir thoroughly and drain. Place in thick frying pan or iron pot, add a little water, a pod of red pepper or a half teaspoonful of red cayenne, cover and bake in a moderately hot oven until tender. Season with salt and pepper to taste, add a little sage, and four tablespoonfuls of bacon or sausage drippings. If desired, a generous piece of washed salt pork can be used instead. Sprinkle flour over top and baste several times until well-browned.

Enough potatoes for the meal can be added and cooked with the meat or the dish can be served as desired with diced, buttered white or sweet potatoes, peas or carrots.

Muskrat a la Terrapin

Boil the meat in slightly salted water for about an hour or until tender but firm. Discard this cooking water. Pick the meat

off and cut into small pieces. Cover the bones with cold water and let simmer and then add this juice to the meat. Do not use the water in which the carcass was boiled at first.

For each muskrat used hard-cook three or four eggs. Mash the yolks with two tablespoonfuls of butter, stir until smooth, add a level tablespoonful of mustard, a tablespoonful of flour, and about one half cup of cream. Add the chopped egg whites and pepper and salt to taste. Then add all of this to the muskrat meat and cook about fifteen to twenty minutes until thick. Before serving add a glassful of sherry wine.

Michigan Special

After soaking overnight, disjoint and cut into pieces, put into fresh water and parboil for five minutes. Drain and rinse the carcasses with warm water. Place in a roaster and cover with canned corn and a little water or milk (use two cans of corn to three muskrats). Add salt and pepper, three medium-sized onions, and two tablespoonfuls of butter. Place in a hot oven and stir the pieces as they brown. Bake about two and a half hours or until the meat is well-done.

Layered Muskrat Meat and Corn

Soak overnight in slightly salted water, drain and discard this water. Parboil for twenty minutes in fresh water seasoned with a little celery, onions, salt, and pepper to flavor. Pick off meat and then place in casserole layered with canned crushed corn (a layer of corn and then a layer of meat) topped off with the corn. Add a little milk, place in oven and bake until cooked and properly browned on top.

Marsh Hare a la Louisianne

Disjoint and soak legs of muskrats in vinegar for thirty minutes or more. Remove from vinegar, salt and pepper well, and place in hot cooking oil and brown. Then remove to another pot filled with about two quarts of hot water. Chop fine a piece of celery, parsnip, and a small head of garlic. Brown chopped seasoning in the cooking oil in which meat was browned, add two cans of Delmonte sauce, and cook on slow fire for five minutes. Pour this sauce back into pot with the legs and cook over low heat until done, adding salt and pepper to taste, a teaspoonful of sugar, and a few sprigs of bayleaf.

Muskrats German Style
(Pickled Muskrats)

Place whole carcass (minus the head) in crock or glass container in solution of a cup of water and a cup of cider vinegar with a tablespoonful of salt, mixed spices, and bayleaf. Let stand in a cold place for at least twenty-four and preferably forty-eight hours. Then simmer in the same mixture until tender. Remove meat, strain off the spices and bayleaf, and thicken the liquid with flour and water to the desired consistency.

This dish is best served with potato dumplings. To make these dumplings fry a medium-sized onion in two tablespoons of fat and then pour over four cups of diced bread and mix by hand. Add one cup of mashed potatoes and mix thoroughly. Then add two raw eggs and a half cup of flour and salt to taste. Lightly fashion into large balls and drop into boiling water in an uncovered pot or kettle for twenty minutes. Serve with brown gravy.

Muskrat Meat Patties

Soak overnight in slightly salted water. Drain and discard this water and parboil in fresh water until tender. Pick the meat off, run through meat grinder if desired, season with salt, pepper and onion, then mix with small amount of bread crumbs and fashion into patties. Dip patties into well-beaten egg, dip in crumbs, and fry in deep fat until brown.

Muskrat Salad

After soaking overnight in salted water, drain and boil in fresh water, seasoned with salt and pepper for flavoring, until meat is tender but firm. Pick meat off, cut into small pieces and prepare as with chicken or other meat salad. With Mayonnaise only added it can be used as a very tasty sandwich spread.

Muskrat Pie

Soak overnight in slightly salted water. Drain, wipe the meat with a damp cloth, and cut into two or three pieces. Place in a kettle, barely covered with water, add a little salt and simmer one to two hours until the meat is tender. Drain and measure the broth, and remove the meat from the bone in large pieces. Chop up an onion, a green pepper, and a half cup of parsley and cook for a few minutes in a skillet using several tablespoonfuls of butter or other fat, stirring frequently. For each cup of the broth, measure one and half tablespoonfuls of flour and mix well with the fat and seasonings. Add the broth and stir until thickened. Salt to taste and add a dash of Tabasco Sauce. Mix in the meal well and pour into individual baking dish. Cover with pastry and bake in a moderate oven until the crust is a golden brown.

Muskrat with Tomato Sauce

Disjoint and cut into pieces two muskrats. Place in a deep pan, cover well with water, add one-half teaspoonful of black pepper, a pinch of salt, one sliced onion, and cook about an hour or until thoroughly tender. Melt one-half cup of fat in a thick skillet. Place meat in the hot skillet, brown on one side, turn and immediately pour over same about two-thirds of a small sized bottle of catsup and a teaspoonful of Worcestershire Sauce. If desired, the pieces of onion saved from the first water and a small piece of celery can be added. Almost cover with water and let simmer until the gravy is thick enough to serve.

Maryland Shredded Muskrat

Soak two muskrats in slightly salted water for two days, changing the water twice a day. Cut up and boil in sufficient water only to cover. When tender, remove meat from the bones, and shred into small, narrow pieces about two inches or less in length. Place in frying pan or other container with just enough of the liquor remaining from the boiling to cover, add two tablespoons of bacon drippings, a tablespoon of sage, a little cayenne, and salt and black pepper to taste. Place in oven, turn frequently until well-browned but still moist, and serve hot.

Stewed Muskrat Liver

Care must be taken to remove all gall bladders. Soak the livers overnight in fresh water. Simmer for ten minutes, draw off the water and then simmer again with a small piece of salt pork added. Then salt and pepper to taste, add sliced onion, and stew down, thickening the liquid with a little flour.

Muskrat liver is somewhat grainy. It tastes quite like that of chicken and is much relished.

Preserving Muskrat Meat

During the trapping season the wives of trappers and farmers living on or near marsh areas where muskrats are produced

(Continued on page 23)



Photo by Roger Latham.

The muskrat is principally a vegetarian and feeds on the roots and stems of aquatic plants, such as cattails, sedges, bulrushes, wild rice, pond lilies, and water weed.

PLANT A GAME FOOD PLOT



Planting of Pennsylvania game food and cover plot mixture.

By C. C. Freeburn

The thoughts and efforts of all of us are rightly turned towards winning the war as quickly as possible. To accomplish this, we must bend every effort in that direction. Naturally, very little time remains for other matters. However, when you consider the best way to spend your few spare moments, you might give a thought to helping wildlife by planting *Game Food Plots.*

This State has an enviable reputation for good hunting. Cooperation between the Game Commission and the sportsmen, plus adequate food and cover, have made this possible. Naturally, to maintain good hunting conditions, work in that direction must continue. We realize that, because of present world conditions, we cannot expect as much cooperation as formerly, but we solicit everyone who can possibly spare the time to plant or help to plant a *Food Plot.*

Wildlife has to live despite the war. We need a few hours of recreation occasionally if we are to continue to give our best to any job. When the war has been brought to a successful conclusion, the boys returning home will need the relaxation and recreation which only hunting can afford. You can help assure this by planting or assisting to plant a *Food Plot.*

If you cannot give the necessary time, perhaps you can pay a farmer to plant one or more food plots or pay him to leave a strip of corn or other grain close to a fence row, or other cover where it will do the most good.

The Game Commission will do everything possible on the lands owned and leased for the hunters of the State. However, many of our men have entered the Armed Forces and labor is difficult or even impossible to obtain. So, if wildlife is to be given the "break" it deserves, some way must be found to provide more food and cover on privately owned lands.

Pennsylvania Game Food and Cover Plot Mixture

During the past year, eight tons of the Pennsylvania Game Food and Cover Plot Mixture were planted by sportsmen and others in the State. Because of world conditions, arrangements were made this year to have only 2½ tons of the mixture made up. As in the past, bids were received from a number of reliable seed houses, and *the low bidder this year is the Wm. G. Scarlett & Company, 729-743 E. Pratt Street, Baltimore, Maryland. The price 7c per pound delivered anywhere in the State.* It is important to remember that *they should receive your order before May 25, 1943.*

What it Contains. The mixture known as "Pennsylvania Game Food and Cover Plot Mixture," as made up for planting in 1941, will contain the following grains in the amounts shown for each 100 pounds of mixture:

Brown Corn (Dwarf Jap), 20 lbs.; Sorghum (Early Amber), 20 lbs.; Sudan Grass, 5 lbs.; Buckwheat (Tartary), 5 lbs.; Sunflower (Small Branching), 8 lbs.; Hungarian Millet, 5 lbs.; Japanese Millet, 10 lbs.; Golden Millet, 10 lbs.; Colby Milo, 8 lbs.; Kaffir Corn (Greeley or Highland), 6 lbs.; Rape (Dwarf Essex), 1 lb.; Hairy Vetch, 2 lbs.

How to Plant. The mixture should be planted in plots of about one-quarter to one-half acre, preferably in long narrow strips. The plots should be located either in or adjacent to good natural cover, such as brushy ditch banks, fence rows, gulleys or woodlots. For best results fertilizer should be used on each plot. In some cases lime also is needed. Consult local agricultural leaders for advice as to the particular requirements in each locality.

Not more than 8 or 10 pounds per acre should be sown broadcast on a prepared seed bed from about May 15 to June 15. Best results have been obtained from sowing by hand, as a drill does not distribute the various ingredients equally because of the different sized seeds.

In order that our valuable wildlife will not be forgotten in the stress of activities at this time, it is hoped that all of you who used the seed in past years will again arrange for the planting of the food plot mixture during the coming Spring.

Anyone interested in getting a supply of the seed mixture should order direct from the company mentioned above and send remittance with the order. Any additional information which is not given on the circular will be furnished upon request to this office. *Please remember that the material should be planted in good soil, and at the rate of not more than 8 or 10 pounds per acre.* In the past many plots failed largely because the seed was sowed too thick, or on poor soil.

More detailed information on the planting of food plots and improvement of living conditions for wildlife is contained in the Commission's Bulletins No. 11 (More Food for Upland Game) and No. 16 (Wildlife in the Farm Program). Both of these bulletins are free and may be secured from the Harrisburg Office of the Game Commission.

We wish to take this opportunity of expressing our appreciation to the many groups and individuals who have assisted with this program last year. We sincerely hope that it will be continued this year.



Photo by Dr. C. S. Grabiak.

Game Protector Elmer B. Thompson, Cambria County, 2d from left with local sportsmen and their children hauled 20 shocks of corn to the mountains with a tractor for game food.

Log of Rattlesnake Shack

By A. B. Champlain

This is No. 10 in a series of Nature Stories by Dr. A. B. Champlain, State Entomologist

FOR miles up and down and across our valley, vegetation in vast tracts, lives and blooms. Growing timber, topped here and there by larger trees missed by the saw-mill crews of years before, tents the area. Countless shrubs and other plants, each, selective of locality or environment, fill in the scanty places or mat the forest floor. Also, Clarks Creek fed by numerous runs and cool springs, ambles and gurgles uncertainly among the bottom hillocks. These natural water ways spread out at various places into pools or marshes, where more discriminating forms of life may flourish.

Our camp, up a short way on the side of Stony Mountain, overlooks this territory. Stony is made up of acres of rocks near the top or upper steep, and is covered below with rock piles, interspersed with wooded areas. The terrain drops in gradation to meet the bottom land. Although at first glance you may think this expanse personifies peacefulness, many forms of active life sheltered here, are at constant odds with their fellows, following their natural instincts to live and eat. Their activities exemplify the law that life feeds upon life, from the most infinitesimal organism to the rabbit, the hawk, the fox or the deer.

Through our eyes, Nature with her magic wand of Springtime has transformed every tree into a city of life, teeming with busy "peoples." These multitudes are bugs, bees, worms, birds or squirrels, all going about the business of their kinds.

Every blossom becomes a storehouse of delights or a shelter for the insect hordes. Here they gather, dressed in velvet, gauze or armor-plate, each according to its own peculiar fashion. All help to pollinate the blooms in return for food or lodging, thus insuring to the plant, the production of fruits and seeds.

Even the rock-piles, so seemingly bare and desolate, would upon closer examination reveal forests of minute plant forms. Beneath these tiny shelters are microscopic inhabitants, just as full of life and desires as their larger prototypes. Also, beneath the sticks and stones, we might find wondrous subterranean lurkers, which carry out their destined purposes in the dark.



Arbutus time! Photo Dept. Agriculture.

All these things in combination are the incentives that take us into the woods and the realm of the wild folks. Here we have our adventures in nature, recorded for your entertainment and information.

April

Gray squirrels are still the predominant animals around the camp. They haunt the feeders, hoping for an extra "hand out" of corn or bread, to go along with the buds that now make up their usual diets. We have seen as many as a dozen grays wandering about the premises on a Sunday morning. Red squirrels come around occasionally, but they are in the minority.

Rabbits now appear in the clearing, to eat up the early green things which are usually in advance here, of the general forest floor growth. We have recorded baby rabbits in the vicinity on April 22. Deer appear along the road or below camp where we may watch them from the window. A doe and fawn were seen April 6.

Now for that questionable harbinger of spring, the Groundhog. Our earliest woodchuck record over the years, was April 6. From the 11th of this month to the 20th are indicated our most frequent early observations.

An occasional racoon was sighted around camp during April, probably a wise old settler who knew how to circumvent the dogs or traps of the open season.

Among local reptiles encountered during the month we have the black snake. April 14th was the first record. Water snakes were seen along the creek also on this date. There is one entry concerning the blue-tailed lizard, basking in the sun on a rock April 18.

April is quite an interesting bird month.

(Continued on page 20)



Cowslips or marsh marigolds. Photo by F. J. W. Horich.

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NOTES FROM THE FEDERATION



Dr. Darlington R. Kulp
President



Colin Reed
First Vice-President



Clair Groover
Second Vice-President



Dr. C. A. Mortimer
Secretary-Treasurer

Directors Meeting

DELEGATES to the 12th annual meeting of the Pennsylvania Federation of Sportsmen's Clubs met in Harrisburg on February 12 and 13, heard reports from the Chairmen of its various committees, voted on 44 resolutions of one kind or another affecting the conservation program of the Commonwealth, and elected officers for the current year.

The Board of Directors met at the Penn-Harris Hotel on Friday morning, February 12, and discussed various House and Senate Bills pertinent to Fish, Game and Forestry and took the following action.

Senate Bill No. 10 pertaining to a State Commission to plan public works which would affect the Sportsmen in as much as it would create employment and be used for the building of dams and conservation of the forests. Approved.

Senate Bill No. 57 pertaining to acid-mine drainage. Approved.

House Bill No. 92 amended the trespassing act—referred to the Legislative Committee to be watched. Referred.

House Bill No. 99 which would give free fishing licenses to any one who is connected with the armed forces of the United States or who is a recipient of public assistance such as an aged person. Rejected.

House Bill No. 123 which would make it mandatory to have delinquent dependent and neglected children under 16 years of age given a hearing before a magistrate, alderman, or justice of the peace instead of being taken before a judge as is now done in juvenile cases. Rejected.

Senate Bill No. 28. This Bill would make it unlawful for any county treasurer or other person authorized by law to issue resident hunting or fishing licenses to issue such licenses to persons over the age of 21 other than those residents of the first-class school district unless such persons shall have paid the per capita tax for school purposes assessed against them. Rejected.

Senate Bill No. 78 increasing fishing licenses 50 cents to be earmarked exclusively for acquisition of fishing waters. Approved.

House Bill No. 147 that any person, corporation, association, partnership or club who or which has leased or secured or hereafter leases or secures land or rights in lands adjacent to or within which are such waters* shall be permitted to fish or angle from such lands only if duly licensed members of the general public are given such access to the lands as is necessary to all lawful fishing therefrom. Approved.

House Bill No. 100 which is the same as House Bill No. 99 except that it issues free hunting licenses also. Rejected.

Senate Bill No. 1103 of January 3, 1941, pertaining to the issuing of free licenses to those over 65 years of age was discussed and Mr. Reed moved, seconded by Mr. Cooper that this Bill be opposed if it was reintroduced at this session.

General Convention

The main program of the Federation was held in the Forum of the Educational Building on February 13, at which time a synopsis of its program during the past year was outlined. It will be remembered that at its meeting a year ago the Federation sponsored two special programs, namely, a Post-War Program bearing on National Defense and designed to create more outdoor facilities for the people of the Commonwealth, and a Farmer Cooperative Harvesting Program sponsored in an effort to assist landowners who lacked the necessary labor to harvest their crops in behalf of the war effort. The latter program while not 100% successful, nevertheless was received favorably and carried out insofar as it was physically possible for cooperating associations and individual members to do so.

Resolutions

Resolutions in brief voted upon at the conference are as follows:

Fish Resolutions

1. Recommending an increase of 50 cents for fishing licenses, such increase to be ear-marked for stream improvement, mine sealing, building dams, lakes or ponds or acquiring them, and acquiring and maintaining public fishing waters.

2. Recommending that the Commission be empowered by Legislation, or a Reversal of Attorney General's opinion, to expend funds for enforcing the Pure Streams Law and eliminating pollution.

3. The Federation reaffirmed its Resolution No. 26, adopted in 1940, requesting the Commission to appoint a regular Fish Warden for every county.

4. Recommending that the Commission assisted by the Federation create lakes and ponds for stocking large mouth bass and provide ample shade trees around these areas.

5. Requesting the Commission to resume the practice of netting fish from Lake Erie for stocking purposes.

6. Recommending Legislature give the Commission discretionary power to close a trout stream that is stocked during the regular open season for a period not to exceed 5 days.

7. Recommending that the Commission increase the number of fish bait and bait fish permitted licensed dealers because the present quota is inadequate to meet the demand.

Game Resolutions

8. Recommending that the skunk season remain the same as in 1942.

9. Recommending that Article 6, Section 694 of the Game Laws be amended to read as follows: "In any county of this Commonwealth, the Commission may, through their salaried officers set aside certain Beaver colonies, and prohibit all trapping within their dams and immediate vicinity, upon lands open to public hunting and trapping, by prominently posting said Beaver colonies during any open season for Beaver trapping in this Commonwealth. Any person violating any of the provisions of this section shall be subject to the penalties hereinafter provided."

10. Recommending that the sale of hides of legally killed deer be permitted.

11. Urging the Commission to supplement its game feeding program by planting game lands and other State owned areas with nut trees, berry bushes, etc., for wildlife.

12. Requesting the Commission to establish wild turkey propagating areas in those counties where there are wild turkeys but as yet no propagating areas.

13. Requesting the Commission to supplement its game food program by paying farmers to set aside and plant areas to game food with seed furnished by the Commission.

14. Recommending that the season on snowshoe rabbits be open for a period of 15 days during January.

15. Requesting the Commission to continue the use of vulcanized fibre hunting licenses after the war.

16. Suggest the Commission adopt a policy whereby officials of County Units will receive notification of any intended change in the Commission's field personnel.

(Continued on page 31)

* Applies to waters stocked with fish furnished by the Commonwealth.

WITH THE BOYS IN THE SERVICE

"I have read all your letters and understand, as my experiences in World War No. 1 were substantially the same during the bleak winter of 1918, your yearnings to return to your tasks here at home. We hope that yearning will soon be realized.

"On January 17 and 18 I hied myself to the wilderness areas of Cameron and Potter Counties with a quantity of feed for the wildlife. My youngest son, Robert, soon thirteen, accompanied me the 18th. We sought the solemn places where God and His handiwork is omnipresent. While there a silent prayer was offered for you all. My oldest son, Maurice, Jr., who was twenty on January 14 is already in Military Service. His absence vividly recalls the many days he accompanied me while feeding game during bleak winter days, from the time he was four years old. He and the feed both rode my back as I shuffled along on my snowshoes when the snow was too deep to travel otherwise.

"Sometime in the future men's hearts will become leavened and the evils—we hope—will be removed. The war will end and the compromising will of God will reign. In the meantime those of us remaining at our posts here shall do our best to maintain your Great Big Out-of-Doors, that God given heritage, most solemnly dedicating ourselves to that duty we owe to you."—M. E. Sherman, Field Division Supervisor, Division "E"

"Well, its no longer a military secret that we are here in New Caledonia, not far from Noumea. It is against rules and regulations to say just what kind of work we are doing so it will have to suffice to say that we are working darn hard and that while its not the type of work we anticipated, it is important that it be done with all the speed possible.

"This island here is no bargain, but compared to other islands north of here it is Heaven, except for the mosquitoes. The place is quite beautiful with rather sharp little mountain peaks rearing their heads perhaps 1500 feet above the sea. The plant and animal life is quite strange to me. Coconuts and a few pineapples grow here and can be bought for about five times their value. They have some screwball birds here. One in particular has markings similar to those of the mocking bird but with a shorter tail. He has the jerky flight of a flicker, walks around like a crow, is a little larger than a blackbird and has a song that sounds like a medley of four or five birds with a couple of extra notes thrown in for complete confusion.

"Oh yes, the people! Well, the whites here seem to be all French that never learned to talk much American. I guess they are all right but I have had no real chance to get acquainted with them. You see we only get four-hour liberty about once in a blue moon and I don't give a hoot about it, for the town of Noumea, which I think is the largest on the island, has about as much to offer in the way of stores and entertainment as some of our little 2x4 backwoods towns. I imagine this would be a far more enjoyable place in peace-time when things are not so crowded.

"There are quite a few Javanese here and they are pretty friendly but are difficult to converse with.

"The most interesting people I have met are the 'Charlies'. They are from different tribes from various parts of the island, and these tribes practiced cannibalism considerably less than one hundred years ago. These husky black boys are very friendly and as we go thru town each day on our way to work we call to them from the truck with a loud 'Hi Ya, Cholly' and they grin and wave back and yell 'Hi Ya, Joe.' A few of them can talk a little English but between our lousy French and a little sign language, we understand each other pretty well. They often help us in our work and are good guys to work. They are keen to learn anything new. They love to watch the boys shoot crap or play put and take or cards. They laugh or shake their heads as a fellow wins or loses. All in all they have a good sense of humor.

"Writing time here is a scarce article so I am afraid this note will have to cover a lot of territory. One special thing I do not mean to skimp on is the gratefulness I wish I could express to so many of your folks at home who were so thoughtful as to remember to express your best wishes of the season to a guy so far away. It is a wonderful feeling to get a stack of cards from the boys with whom you have worked. You can't help but wonder once in a while if you have been forgotten but you folks certainly banished any doubts when our Christmas mail rolled in the other day. I certainly hope you will do your best to relay my most sincere thanks to everyone who didn't forget to remember. I'll do my best to write them if and when time permits but our hours are long and strenuous." C. Gordon Kriebel, P2c, C-4, Navy 8110 c/o Fleet Postoffice, San Francisco, Cal.

Wildlife Week

Wildlife Restoration Week for 1943 will begin with the advent of Spring on Sunday, March 21, and continue through to the 27th. For further information about this annual stimulation to the cause of wildlife restoration write to L. W. Wendt, Secretary, National Wildlife Federation, 1212 16th St., N. W., Washington, D. C., or David A. Aylward, President, 20 Spruce St., Boston, Mass.

"Received your letter upon my arrival at the Naval Air Station, Kanehohe Bay. I have seen quite a bit of territory on the West Coast since I left my former address and have enjoyed the trip. The scenery here is very beautiful with its tall mountains and sunsets and is something I will never forget."—C. Sp. (G)—W. A. Moyer, Gunnery School, U. S. Naval Air Station, Kanehohe Bay, Territory of Hawaii.

"My Battalion Commander gave me the rare opportunity of attending the Field Artillery School. I had wanted to attend this school for a long time.

"The weather is very mild, in fact we have all doors and windows open in the barracks. The meals are excellent.

"We go to class at 8:45 P.M. and never get through until 9:30 in the evening. I am very much interested in the work so I can keep up in my studies.

"Fort Sill is rather an old establishment. We have as our Guard House an old home that has small cells in the cellar. One of these cells was used to hold the notorious Geronimo, for seven years. After this length of time he was so broken in spirit that he died. You will recall that he was the famous Apache Chief."—Corporal Roy W. Trexler, E.S.C., P.O.T.-371, Class No. 30, Fort Sill, Oklahoma.

"I can comment a little on my recent activities here. It has been my pleasure to be assisting the Company clerk for some time now, and in the comparatively short time much has been learned that will be of great benefit to me later on. The military legal procedure, i.e., trials, etc., interest me greatly. I note they are slightly different from the methods we used, yet, at the same time there are quite a few similarities; also the military correspondence office methods, filing systems. Well, to sum it up, I'm getting a liberal education.

"I had a little information on your recent hunting season. I was thinking about it a lot. Two of my brothers were lucky enough to get furloughs during November, and managed to do several days of hunting while they were home. I bet that chance was appreciated more so than ever before. My brothers are all in the States, the last I heard.

"The hour of 10:45 P.M. has come and so I must close for this time. If you can spare the time I would like to hear how things are going 'back there'. Tell the folks I said hello."—Pvt. Martin L. Shaffer, Co. B, 33d Inf., A.P.O. 870, c/o Postmaster, New York, New York.

"I received your Christmas card December 27. It sure has traveled. First it went to Ft. McClellan, Alabama, then to New York, then across the Atlantic to Northern Africa, and to me. Quite a distance for 1½c postage, isn't it?

"I'm very sorry I neglected to tell you of my change in address. Soon after I had last written to you from Fort McClellan, I was sent to Fort Dix, New Jersey, where I stayed for a few months, then was shipped overseas. I'm with the 213th Coast Artillery Anti-Aircraft Regiment. We are now located in French North Africa. It is quite an interesting place, with a modern city, Arabs, and French and Spanish people making up the population. The chief crops seem to be oranges, tangerines and wine. The oranges and tangerines are delicious, and cheap, so we eat a lot of them. I'd rather not say anything about the wine!"—Pvt. George W. Levis, Btry. A, 213th C.A. (AA), A.P.O. 668, c/o Postmaster, New York, New York.

(Continued on page 32)



The American Beaver

(Continued from page 5)

daylight hours. The walls of the lodge are rather thick, providing protection from predators, the cold of winter, and the heat of summer.

Their food consists of bark and small twigs of aspen, maple, willow, birch, alder, dogwood, hazlenut, cherry, sycamore, elm, red cedar, box elder, oak, and corn. In summer, when tree cutting is at a minimum, a large from water and that food available from different sized aspens is as follows:

D. B. H. (inches)	*Average Twig and Bark Weight—Ounces*
1	23
2	80
3	310
4	470
5	770
6	1150
7	2200

As the cruising radius, up and down stream, is about half a mile and the beaver will travel an average of 267 feet from water for food, we should take the area within these limits in computing the food available for the animals in one colony. In making the survey we should keep in mind the fact that, if the colony is to be maintained indefinitely, only the annual increment of aspen can be used as food. Due to other food eaten, the carrying capacity will be somewhat greater than appears from the aspen calculations alone. Composition of aspen by age groups proposed as optimum for management are:

Quantity	*Age (years)*
1/5	0- 5
1/5	5-10
1/5	10-15
1/5	15-20
1/5	20-25

The beaver trout relationship is a controversial subject, but I believe that with proper study of the question and education of both parties involved, that a program can be worked out satisfactory to both sides. It is entirely wrong for the trapper to believe that beavers have no detrimental effect on trout streams and trout; on the other hand, it is just as wrong for the trout fisherman to believe that beavers can do no good. They may cause harm on a trout stream by one or more of the following:

1. Due to slowing water, beaver dams may cause water to be warmed beyond the point of tolerance of trout.
2. By destroying shade, water may be warmed even after the dam is no longer in use.
3. Dams may cause a barrier in the spawning run of trout.
4. Dams may cause the bottoms to become choked by debris, thus destroying adequate sub-stratum for the production of aquatic fish food.
5. May bring about a change in amount of dissolved minerals and gasses in the water.

Advantages of beaver dams on trout streams:

1. In extremely cold water streams beaver ponds may raise the temperature sufficiently to increase the growth rate of trout.
2. Provide deep water on small streams.
3. May form permanent pools.

To think that the above advantages and disadvantages will hold true for all streams is pure folly. A rather careful evaluation of the effect of beaver dams must be made on



The otter is reputed to be the chief enemy of the beaver.

each individual stream to determine its good or bad effects.

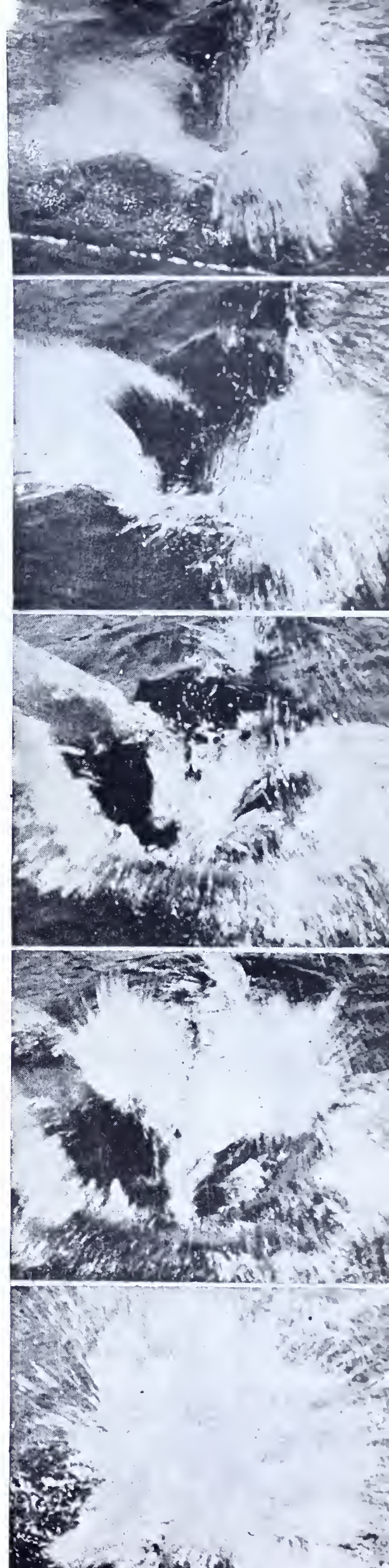
Without a doubt, beavers are present on many streams on which they are detrimental to trout, but I believe that we could add materially to the total beaver population by introducing them to streams on which no harm would be done. Dean R. L. Watts of the Pennsylvania State College found in a study of the migration and growth of trout that trout seldom enter and leave small feeder streams, which streams were supposed to be the spawning bed providing a surplus of trout for the parent stream. It was also found in this same study that food was not present in large enough quantities in these small streams to support the large numbers of trout found there and as a result the trout grew very slowly, few of them attaining the legal size of six inches, in Pennsylvania.

Why then, not take advantage of these waters by introducing beavers? They would not conflict with the trout fisherman, as he gets few legal trout from these waters and they do not provide trout for the parent stream. In fact, they would likely have a distinct advantage in that they would make for deeper holes, thus providing a greater volume for those trout to feed in. Many such streams are present in Pennsylvania. I have in mind a small stream in Clinton County on which I fished for many years. On the upper reaches of this stream it was unusual to see trout of more than four or five inches. A pair of beavers built a dam and the following year several nice catches were taken from this dam. For six years this same dam was very productive of nice trout, but after the beavers were taken in the open trapping season the dam dried up and it again was impossible to take legal trout in this vicinity. No apparent harm was visible because of this dam, but a definite advantage was.

For stocking this kind of stream I suggest the live trapping of beavers from over populated areas, from areas on which there is a conflict with the farm use of land, and from streams on which the animals conflict with the trout. To trap beavers the Pennsylvania Game Commission has developed a fine trap designed to take them alive; this trap has proven very successful and practical. After all beavers are removed from a dam, it, too, should be removed, either by tearing it out, or better still, by blowing it out.

Pennsylvania has controlled the beaver in the past chiefly by regulating the trapping, by transferring them from unsuited areas to areas on which there will be no conflict, and by good law enforcement. These controls are sufficient and elastic enough to use on a higher beaver population, thus making possible the maintenance of a population with a maximum, relatively stable surplus. The remaining two beaver problems; establishing a population where they have been exterminated or the population has been reduced below the carrying capacity, and the conflict with farm use of valley land, can be taken care of by trapping and transferring.

The government is spending millions of dollars each year by building dams for flood control. Why not let our beaver friend help in this work by building the dams for us and at a negligible cost? Soil conservationists cry about loss of top soil. Would beaver dams not help prevent this valuable soil from flowing into the ocean? Might not an old abandoned beaver dam provide feeding places for such game birds as the American Woodcock? Might not a large beaver dam provide resting and nesting sites for waterfowl? Surely an animal as interesting as the beaver, an animal that is worth from twenty to forty-five dollars, an animal that may have advantages not yet investigated, is worthy of more consideration in its management.



The photo series depicted on these two pages show a beaver in the act of slapping the water with its tail as a danger signal. Enlarged from 35mm motion picture negative.



Beavers frequently build their dams near the headwaters of mountain streams, providing of course sufficient natural food is available.

The Log of Rattlesnake Shack

(Continued from page 15)

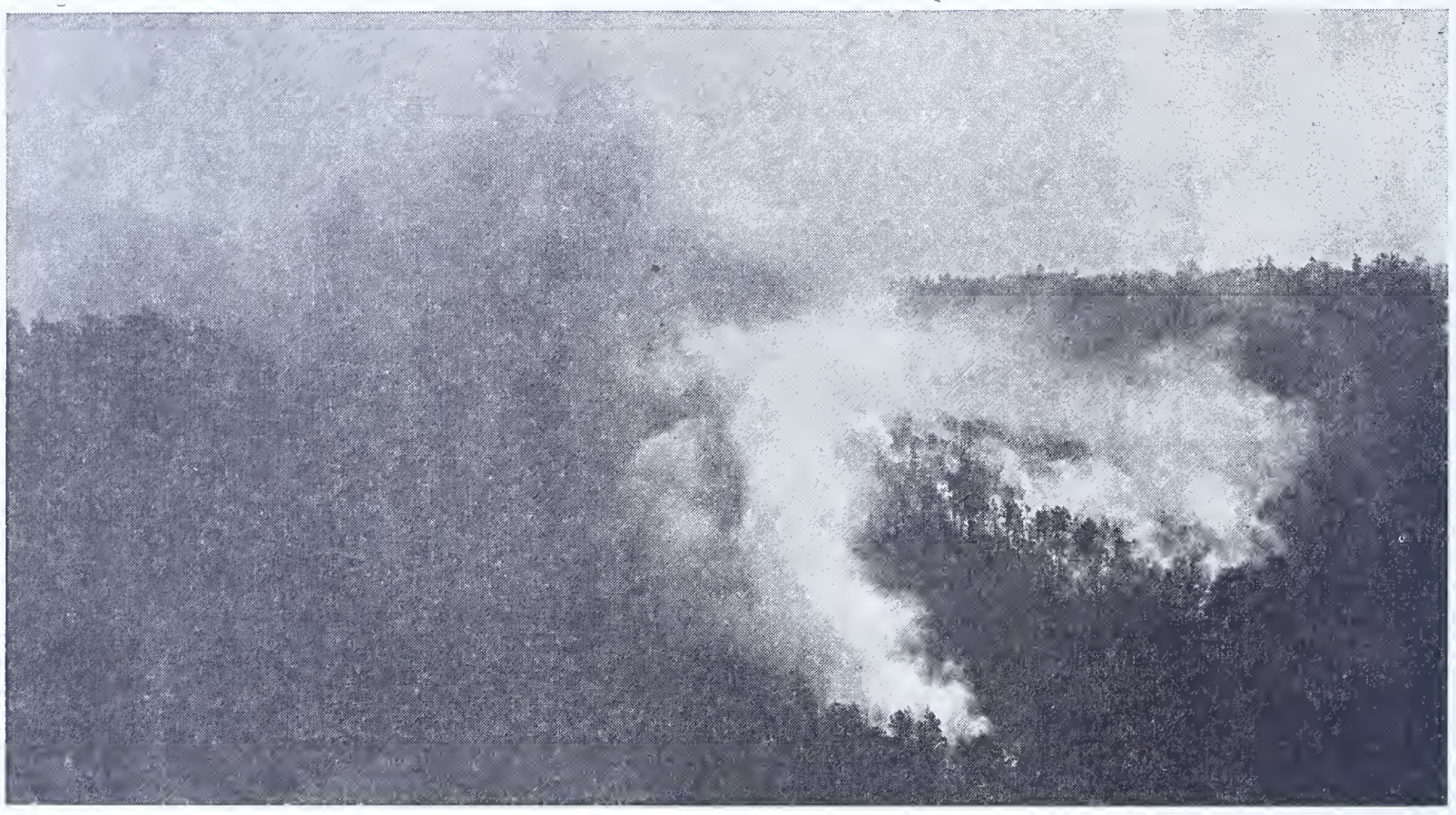


Photo Dept. Forests & Waters.

In the Spring when green vegetation is scanty and the forest floor is cluttered with dry leaves and fallen branches that dread menace—forest fire—may crop up at any moment.

Early any morning the drumming of the cock grouse may be heard in the distance. Winter birds which remain with us during the month are recorded as follows—downy and hairy woodpecker, cardinal, titmouse, ruby and golden crowned kinglet, purple finch, brown creeper, nuthatch and the crows. Juncos have been seen in flocks up to the 13th of April, while robins, doves and flickers at this time appear in numbers to take up their abode in the area until fall time. Phoebes now build nests in the shed, or on beams beneath the bridge over the creek. The whip-poor-wills drop into the vicinity around the 19th.

Yellow bellied sapsuckers appear from the 8th to the 11th, and immediately turn their attention to our Chinese elms. These trees, which they seem to especially prefer, are marked and scarred from yearly attacks. Each spring, the fresh wounds caused by the feeding habits of the sapsuckers, provide a feast of leaking sap for countless insect guests. Flies, wasps, butterflies and many crawling "bums," congregate on the tree trunks for liquid refreshments.

Statistics are generally pretty dry, but we must include a few first records. Birds noted during April are as follows; Warblers; black and white 23rd, black throated blue 28th, myrtle 29th, yellow palm 13th, oven bird 10th, water thrush along our spring stream 20th; Sparrows; Song 1st to 13th, white throat 13th, fox sparrows and tree sparrows in April to the 14th, miscellaneous: Chewink 26th, virio 22nd, fly catchers 14th to 29th, hermit thrush 15th, wood thrush 30th. Flocks of wild geese were seen going north as late as April 24th.

One interesting note is a record of the mating flight of the male woodcock. Many a nice point of etiquette is involved in this activity, accompanied by peculiar noises on the ground and in the air. This occurred during the evening on April 18.

To most persons insects are a queer lot that should be shunned or squashed. To us they are neighbors to be investigated and understood. We will not worry you with details of countless specimens of six-legged creatures trapped, collected or observed. Many of them furnish new records for Pennsylvania and repose in the insect collection of our State Department of Agriculture. Other specimens of interesting insects have been passed on to students and institutions elsewhere, including the United States National Museum. However, we would like to call attention to a few outstanding April insect examples.

Various species of mosquitoes appear in the spring around camp. They breed in the marshes or stagnant pools along the creek. Male mosquitoes remain in these situations and feed upon the moisture of plant life, or sap from a wounded tree and never a drop of blood do they take. The female it is, who with bloodthirsty intent, tackles the warm blooded animals for their life fluid.

Black flies or buffalo gnats and later the punkies or no-see-ums and deer flies that infest our forest areas, cast a shadow over the thrills and pleasures of out-of-door recreation. We bushwhackers with a thick or leathery epidermis do not mind them so much, but they ruin the outing in springtime for many of our guests. There are methods of circumventing these determined pests, although some of them are said to be as bad as the "critters" themselves. Proper clothing may help during the time of heavy infestation, but who, may I ask, wants to wear proper clothing way out here. Head nets or veils have been recommended and various dopes improvised. These formulae may be had by consulting local libraries for books on the subject, as well as persons familiar with these compounds.

Our black flies (Simulium sp.) become prevalent during early April and continue to a greater or lesser extent throughout the month. Their exasperating habit of getting into the eyes, nose and mouth, or crawling through the hair, gives them a real bad reputation. Not only this, they add insult to injury by biting us in the meantime. Adult black flies lay their eggs in moist situations in or along streams, where the larvae that hatch from these eggs, take up their abode, attached to stones, sticks



Photo by C. Gordon Krieble.

Cock robin—harbinger of spring.



Ed. Rudy, Inspector, Dept. of Forests and Waters.

or debris in the stream. You should look for the larvae in places where the swift water churns and spills over the rocks, leaves, and sticks—here they live and grow, feeding upon the minute plant or animal life swept to them by the currents.

Criorhina nigriventris is the name of a rare fly that occurs in our mountain area. Way back in 1911 it was described as a species new to Science by W. R. Walton at that time with our State Department of Agriculture, now an Entomologist with the United States Department of Agriculture. For a long time this type specimen was the only one in any collection. Now late in any April, when the wild gooseberries bloom among the rocks on the mountainside in Clarks Valley, we may capture a few of these interesting creatures. Criorhina nigriventris is about the size and bulk of a bumble bee, which it resembles somewhat, and occurs with these bees as they search for sweets in the tiny gooseberry blossoms. They flit and dart about, and it requires quite some skill with the net to land one. On several occasions amateur assistants have been disconcerted upon capturing an individual, to find a real bee with a hot tail.

Then we have corners where butterflies love to congregate, they at least do us no bodily damage and like the flowers that bloom in the springtime, add a nice dash of color to the landscape. Also, the April earth yields the adults of many hibernating forms of insect life, beetles, bugs and other crawling creatures. Moths emerge from pupae in the ground, or from cocoons attached to twigs. They fly about the opening, and unfolding foliage to place eggs where their offspring, the little caterpillars, will find a table set for summer meals.

Blooms of the crocus and the daffodil open the April season in the shack clearing. Of course we planted them here. Crocuses make a nice tidbit for rabbits and other animals but daffodils are not bothered at all. Along the spring stream in front of camp, a golden margin of cowslips or marsh marigolds makes a striking color scheme of green and gold that is bound to attract the eye of all, and these plants continue to bloom throughout the month. Also the tiny yellow flowers of the spice-bush appear early and make their impressions in the landscape.

Later in April masses of dog-tooth violets, which really belong to the lily family, are to be found along the swamp edge, and as we arrive at the peak of April's possibilities many more blossoms stand out in splashes of color against the background of winter's sombre remains. Now arbutus flowers hide their beauty and fragrance beneath the cluster of leaves of the spreading plant; the anemones with dainty grace, push above the winter litter. Close to camp the white trillium blooms along the back of our little stream, the earth held tight in places by low creeping myrtle, now covered with light blue bell-shaped flowers. Bloodroot clusters appear for a brief time, each blossom with white or pink petals that open to the sunlight and shut at dusk. In the forest striking white patches indicate the Serviceberry tree, or Shad Bush, with flowers unfurled, standing out here and there all over the area. Near the end of the month our wild apple and cherry trees begin to bloom, accompanied by the musical hum of insects attracted there. Now our bare and desolate hills and valley are converted into a new fairyland of bright interest.

Among the hazards of our mountain region we must mention forest fires. In the springtime when the green vegetation is scanty and the forest floor cluttered with dry leaves and fallen branches, this dread menace may come upon us. Now we rely upon the ceaseless surveillance of trained persons to spot and circumvent such calamities. In our territory we must mention the activities of Ed. Rudy, Inspector in the Harrisburg district, Department of Forest and Waters. Be it day or night, Rudy and his assistants are ever alert to protect our woods, our camp, our animals and wildlife with the knowledge they have gained by many years of experience. Ed Rudy has helped us over many such difficulties and we here express our appreciation to him for this and other favors as applied to our camp area.

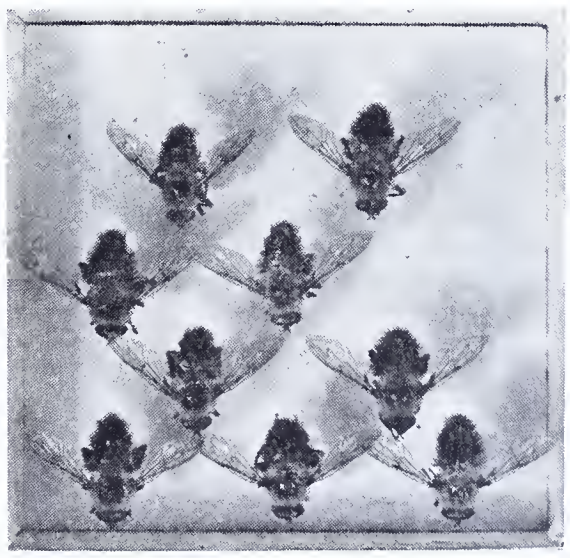


Photo Dept. Agriculture.

Criorhina nigriventris Walton. A rare fly—about 2/3 natural size.

Our lowest temperatures over the April weekends at camp were 24° to 28°, while 34° to 48° were most often recorded. Our highest record from the shack book for this month was 78°.

Your Heritage

EDWARD T. RUDY, *Inspector,*
Dept. or Forests & Waters, Harrisburg, Pa.

WHEN God created the Earth and knowing all things before hand, he also knew that just the bare soil would be a desolate, unhealthy, unproductive place for the inhabitants to live, so he covered the Earth with a vast forest of beautiful trees, wild flowers and plant life, and placed therein the many kinds of animals and birds and wild life. These forests would purify the air, supply wood for tools, homes, control the run off of rainfall maintaining the cool clear water in springs and rivers, supply wood for the altars of sacrifice, the wood for the Ark and Temples, and homes and food for the wildlife, also medicines from the trees and herbs for the ills of the people. This great gift of God to Man (the forests) has been passed down to us thru the thousands of years since creation, a heritage to be conserved and used for the benefits of man.

The forests are the greatest natural resource of any Nation, State or community and must be protected from destruction by fire and careless lumbering. Idle acres must be planted, so that our children and children's children throughout the coming generations may have a better land in which to live, always keeping in mind the fact that our forests provide health, recreation, hunting, fishing, camping, work for thousands of people.

Now more than ever before the protection of our forest and the conservation of its resources is necessary, so that its products can be used in the manufacture of the many things that are needed in our all-out war with the Axis powers. For when the forests are destroyed it not only deprives the community of its many benefits but also destroys the trees and plant life and wild animals and birds, from which the Nation gets material for ship timbers, plane parts, gun caissons, airplanes, gun stocks, pontoons, barracks, medicine, stretchers, splints, bandages, paper, food, fur for warm clothing, and many other things.

For many years in Pennsylvania there has been a volunteer army of approximately 3800 local forest fire wardens and 35.000 crewmen, some of whom are women. The only compensation received by this group is a small hourly rate while actually fighting fire. They are citizens who realize the need of our forests and are willing to drop everything and answer the call for fire. When not fighting fires they are trying to educate their neighbors in forest protection. But with all the combined efforts of this group and the Pennsylvania Department of Forests and Waters we still have in Pennsylvania an average of 3500 forest fires destroying from 65,000 to 100,000 acres

(Continued on page 32)

THE LAST DAYS OF ROCK SHANTY



Photo by the Author.

Rock Shanty—now a memory.

By Lewis D. Reddinger

THAT section of brush covered, rock strewn land, known as the North Shawmut Area, in Elk County, lingers in my memory as being the finest deer hunting country the State of Pennsylvania had to offer at the time I write of. The steep, rugged hillsides, held together by immense thickets of laurel and rhododendron, were favorite haunts of not only deer, but grouse, snowshoe hares and cottontails, as well as foxes and weasels.

From Rock Shanty one could wander in almost any direction to find small but turbulent little streams whose icy waters splashed and gurgled over great dark moss covered stones to rest in a deep shady pool below.

These streams contained many brook trout. Not big tackle busters, but small gamy fellows ranging in size to ten inches.

To us, this land seemed a natural heritage, though the title lay in the hands of the Shawmut Mining Company, who, for some reason, tolerated our habitation thereon.

Rock Shanty was, I must admit, an eyesore. Clapped together of hardwood boards and slabs, it was loosely held in shape by thick black roofing paper tacked heavily around the outside.

The inside was little better. Discarded paper cartons had been taken apart and tacked haphazardly on all of the four walls. Years of seasoning with smoke from the ancient range had given the paper cartons just the proper color, and odor. Porcupines entering the shack through broken windows in the summer months, regularly kept the floor leveled off and occasionally chewed the back off a chair, or a leg from the table. But we loved it!

The annual deer season usually found ten or twelve of us walking on each other and sleeping three-deep to a bunk. Perceive if you can, ten men crammed into a shoe box in the pre-dawn hours of the first day of deer season. Two of us trying madly to get breakfast and at the same time scrambling vainly to keep from being trod on by eight rarin'-to-go deer slayers, who were busily engaged in disengaging each other's socks, boots, shirts and other items of apparel and equipment. But we loved it!

All through the day, a gallon pot of coffee was kept steaming on the stove for the benefit of all and sundry who chanced to call. In payment for a cup of hot coffee, each guest was asked to keep the fire going and the pot boiling. It worked out fine.

As the years passed by, the gang dwindled away one by one. Several of the older ones have crossed into the Great Beyond. Others moved away to distant parts of the country. One is now in the Navy somewhere in the Pacific. Another is serving his country as a lieutenant in the U. S. Army Air Force.

The camp, finally abandoned by her crew, stood for years in a little clearing, the windows blackly vacant like gigantic eyes staring through the sumacs for a friend who was never to appear.

Thus stood Rock Shanty until 1939, when it was mysteriously leveled by fire. Now nothing remains except the little clearing where it stood, an occasional rusty piece of iron, and a thousand memories in the minds of anyone who has ever slept between it's smoke grimed walls, or slapped a hurried patch on it's forever leaky roof.

How we loved it!

THE CANINE CORNER - - By Evan C. Stineman

"Dear Mr. Stineman: There have been a number of advanced ideas adopted by the Sportsmen, such as the purchase of sportsmen owned and controlled land, the establishment of small game propagating areas, and the last one The Special Dog Training Area.

"These areas are propagating areas in the same sense as the others with several exceptions. The dog breeders and those interested in the development of dogs as trailers and finders of game have never had sufficient time to do this work until the establishment of these areas.

"Young dogs should be kept working during the bare ground months. The regular training time includes about three months of snow covered ground, and this condition makes for poor training.

"Those charged with the control of these special areas must keep them stocked with game as well as provide the land and keep it posted. They are interested in the game and keep vermin controlled or removed.

"Good hunting is provided for those interested in shooting game around these areas too. Most beaglers do very little shooting. They get their sport by producing better gunning dogs, and have a supply available for the hunters who have no time nor inclination to do this training for themselves.

"Those interested in the production of good dogs never had an opportunity to have their dogs ready for trial competition with the dogs produced in neighboring states where training was permitted until this law was passed.

There were over a hundred of such field trials held in 1942 and were under the guidance of the American Kennel Club.

There were 20 of these trials held in Pennsylvania in 1942, with approximately 100 dogs entered in each.

This indicates there are a large number of our people interested in the production and training of dogs and indicate the importance of these Areas. Sincerely yours—M. J. Farabaugh."

Note—Mr. Farabaugh was recently re-elected to the post of Sec. and Treas. of the Cambria County Sportmen's Asso. for the 14th consecutive time and is also a delegate to the Pennsylvania Federation of Sportsmen's Clubs. The Cambria County Sportsmen's Asso. represents in the neighborhood of 1800 sportsmen.—Evan C. Stineman.

Did You Know That?

By W. W. BRITTON

1. A male swan is called a, COB
2. A female swan is called a, PEN
3. A young swan is called a, CYGNET
4. Mourning doves are 90 percent vegetarians
5. A young snowshoe hare is called a, Leveret

COON HUNTING DIARY

By Paul P. Prugh

ONCE again the hunting season is but a memory, to dream and reminisce about. As the smoke from our pipes curls lazily ceilingward we think of the buck that dashed across the clearing, the large gray squirrel that barked so saucily from the towering oak, the ringneck gliding gracefully across the stubble, or the old ringtail that fooled the hounds so cunningly, and we ponder and wander back over our hunting grounds again.

We may wonder where we hunted, who were our companions on a certain occasion, and we turn to a little notebook, laid away in a special drawer in our den; a diary of our hunting expeditions.

I, for one, follow the hounds in the quest of old ringtail, and this little notebook is labeled "Coonhunter's Diary."

My thoughts turn back to a time three seasons ago, when Old Bill, the black and white hound came to live with us, and I wonder when and where we treed the first 'coon. I turn to the little book marked "Season 1940" and there I find "Second night of training season, Bill treed 'coon in grapevine in Pierce Hollow."

I then wonder about the puppy Black Ace, who was just a year old at this time, and I leaf on a few pages and see "Sixth night out, hunted up the creek, treed two 'coon on large oak, Ace opened up for first time on trail, Ken climbed tree and had good look at both 'coon."

A little farther on I noticed "Last night out before open season—Treed two 'coon in Roxborough woods. The pup barked "treed" like an old coonhound for the first time.

I am quite interested now, and turn the page to "Open Season."

"November 1—Rain—No hunting."

"November 2—Saturday night—Ken, John, and I started out at 11:00 P.M. Treed coon in Roxborough Woods before 11:30 P.M.; a nice one around eighteen pounds."

And so I leaf on to the end of that season's hunts and see the total, twenty-five 'coon, and ten 'possum treed. Not bad I think, for a new dog and a puppy one year old.

So thinking, I wonder, did these two dogs do any better the next season and I hurriedly turn to a little book marked "Season 1941."

As I anxiously open the cover, I see, "Training Season, August 22, Doc and I hunted up the creek to the Swamp. Treed 'coon at the edge of swamp after forty-five minute chase. Both dogs trailing fine, and the pup barking 'treed' for fair. Will never forget Doc saying, 'There might be a better pair of 'coonhounds in the country,' but he added, 'I don't know where.'"



"What camping expert, did you say, told you to put up the tent around a tree?"

On through the pages I leaf and notice that with each night's hunting, the pup is improving.

"December 15, Al and I started out at 9:30 P.M. Treed three 'coon, took two, Black Ace trailing fine on frozen ground; cold, frosty night."

On a little farther, Dec. 26, hunted at Kough's, with Miller. Ace treed first time by himself. A large 'possum, on wild cherry. Barked up like an old timer. Bill on down the hollow on 'coon track which ended in den tree."

So on to another season's total. Seventy-three 'coon and seven 'possum treed; and a lot of grand sport. Not as many nights hunted as the previous year, due to bad weather.

Then the little book marked "Season 1942." A sad story it holds, too sad, in fact to relate, for due to working conditions, and a very bad Fall for night hunting, a very few pages are filled. But old Bill, the black pup, and I are all hoping the little book marked "Season 1943" will be filled with pleasant memories.

It makes no difference what game you hunt, the Hunter's Diary will afford you many enjoyable moments, as you recline in your easy chair, with your pipe and slippers, during the long winter evenings which follow the close of the hunting season.

Recognition at Last

(Continued from page 13)

preserve the meat for extra use. This is accomplished by applying proper home preserving methods and putting the meat in glass or earthen jars.

A favorite method used in the muskrat sections of the country is to parboil the meat, fry it lightly, and then pack it tightly in glass, fruit, or earthen jars. Melted fat should then be poured over it until it covers the meat about one-quarter of an inch, in the same manner as country sausage is commonly preserved.

The quick-freezing method and the locker service inaugurated by ice and refrigerating companies have made it possible to develop still further the preservation of muskrat meat. The usual procedure is to blanch or lightly parboil the meat, wrap it in special waxed paper and then quick freeze it. This is a sound conservation practice.

The Izaak Walton League will hold its TWENTY-FIRST ANNUAL CONVENTION, at the La Salle Hotel, Chicago, March 25, 26 and 27, 1943. The Outdoor Writers' Association will meet in conjunction with it.

Famous "Barrens" Acquired for Game Lands *(Continued from page 7)*



Mud flat formed by wash from iron ore in the days of Andrew Carnegie.



Iron ore now being removed from the "River Hill" tract in the "Barrens."

came the D. M. Bare Paper Company, Inc., and in 1909 conveyed title to the McNitt-Huyett Lumber Company from whom Theodore Davis Boal acquired title in 1924.

The other approximately one-fourth of the area acquired was known as the Centre Furnace Company lands. Titles passed from the warrantees to Samuel Miles and Jno. Patton, and from them to Moses Thompson, Jno. McCoy and James H. Linn.

About 1880 these owners conveyed the iron ore and mining rights of the so-called "River Hill Tract," to the Edgar Thompson Steel Co., Limited. That Company soon thereafter conveyed these rights to Carnegie Bros. and Co., becoming shortly the Carnegie Steel Company, followed by a conveyance in 1900 to the Carnegie Land Company. In addition to the so-called "River Hill Tract," the Carnegies acquired title from Shorb, Stewart and Co. to an additional 133 acres.

The Bellefonte Furnace Company owned the mining rights from 1903 until 1914.

The Boal title for all of the land acquired by the Game Commission, including mining rights, dates from 1923 and 1924.

The big romance of the "Barrens" has been the iron industry, and evidently the most important operation was within the "River Hill" Tract. Another was known as the "Red Bank" operation, and still another the "Towhill." Neither the Red Bank nor the Towhill areas are within the lands acquired from the Estate of Colonel Boal. The Carnegie operation was on the River Hill tract where, since the present war has created a great demand for iron ore, it is at this time being operated by a private concern under a lease from the Boal Estate and Mr. Claude G. Aikens.

Reports indicate that mining of iron ore in this section began about the year 1800, but not on a large scale until Andrew Carnegie built a furnace at what is now known as Pennsylvania Furnace, and started making pig iron from local ore. This furnace started operation about 1875, and when the local ore near the furnace began to run low, he did some prospecting and then bought the River Hill or Scotia area sometime between 1800 and 1882. He came personally to Scotia to supervise the erection of buildings and to start the iron ore operation. The story is told how his impatience to get the operation going, led to the shipment of an entire diamond drill outfit by express, at a cost of several thousand dollars.

During the period 1882 to 1895, the Scotia operation was one of the principal sources of iron ore in Pennsylvania. However, when ore from the Lake Superior region became available in quantities, Carnegie had the foresight to see that transportation, which was the big factor in the price of iron ore, would be much cheaper by water to the mills in Pittsburgh than shipment by rail from Scotia to Pittsburgh. He then sold his interests, about 1895, and the succeeding firms, not being able to compete in price, failed and eventually closed down. It has been estimated that about 1,700,000 tons of iron ore was produced from the Scotia operation by Carnegie and others. How much more may be produced during the present war is, of course, problematical.

According to Mr. R. W. Stone, of the Geological Survey, Pennsylvania Department of Internal Affairs, the ore is limonite, also called brown ore and brown hematite. It occurs as irregular masses and concretions in clay derived from weathering of dolomite and sandstone. He reported that limonite concretions may be as much as two feet in diameter, although most of them are much smaller. Some of the irregular masses of ore taken out weighed several hundred pounds and consisted of nearly pure limonite. The clay contains great quantities of chert and flint derived from the weathering of the dolomite.

The ore was crushed, screened, and washed at the mine to remove the clay, flint and chert. Analyses of the washed ore shipped from the mine show silica 22 to 26% and iron 41 to 46%. Phosphorus was low, about 0.04%, and a low manganese content made the ore good for foundry iron.

Coincident with iron ore operations in the "Barrens" came an increased, and unfortunately, indiscriminate use of the forest. Much of the timber was cut and burned, making charcoal. After the best timber had been taken for miles around, many areas were cut a second and a third time. Expansion of local ore mining brought about an increase in coal consumption in Pittsburgh where the ore and iron were converted into steel, which in turn increased the demand for mine props. Along with this came increased buildings, railroad and telephone construction, etc., with the result that the forests were combed again and again for their best products.

Then, in 1885, the Pennsylvania Railroad opened a branch to Scotia and with it came annual forest fires. Some were small; others big, but each one did its share of damage. Only a few of the pines were able to persist and scrub oak with its sprouting ability took over the fire scarred lands. The Village of Scotia, in 1906, was almost wiped out by an unusually large fire.

The Centre Furnace Company and Pennsylvania Furnace Company are reported to have cut the original timber and made charcoal of it. This work accounts for many of the winding roads and trails through the area. Although cutting began with the early settlers, or perhaps even with the Indians, it was conducted in a haphazard way for mine timber and charcoal for many years. The first organized lumbering seems to have started in Civil War time in the Pennsylvania Furnace Section. The Roaring Springs Paper Company cut extensively on the yellow pine area from Scotia to Fairbrook prior to 1900. Between 1908 and 1918, Huyett and McNitt of Bellefonte, clear cut all that was left on the entire area. The logs were transported by tramroads to a mill at Waddle, and there manufactured into lumber for mine timbers and staves. Moses Thompson started lumbering between Waddle and Scotia in 1898. His grandson, George B. Thompson, who took over the

business two years later, said that it was necessary to cut in order to save the trees from the numerous fires started by the railroad. The train crews are reported to have been so careless that the Thompson Family was forced to have every train followed by a rider to report fires. Mr. Thompson produced mine timbers, telephone poles, lumber at his mill in nearby Altro until 1923, when operations were discontinued.

Besides the major industries of mining and lumbering, there were a few smaller enterprises, such as the Snake-killers who hunted rattlesnakes in the wake of the loggers, the fat being highly prized for medicinal purposes. According to recent reports, rattlesnakes are now seldom seen within this area, so the snake-hunters must have made a rather thorough job of cleaning them out. A few people gathered pitch pine knots and extracted from them a so-called pine tar. The process was similar to that employed in the manufacture of charcoal.

They peddled this tar throughout the regions for use as lubricating grease or as medicine, whichever was in demand. All of the old wagons with their wooden wheels and lynchpin axles had a bucket full of pine tar with a stick in it hanging from the axle between the rear wheels. Every so often the driver would apply some of this to the axle to relieve the unbearable squeak. The constant injection of this tar into the wood finally made it almost as hard as steel.

Even a hasty examination of the "Barrens" as they appear today proves the obvious fact that something extraordinary has prevented, or at least retarded the natural regeneration of commercially valuable timber. Many persons lay the blame to thoughtless lumbering, while others hold that careless railroad operations were responsible. The cause, however, lies deeper than these two combined factors. It is the interaction of a number of factors besides lumbering and repeated fires, among them being the very nature of the soil, the present lack of seed trees, and a dense low ground cover of grass and shrubs. Late killing frosts in spring are also a factor in retarding valuable regeneration and in addition, it is quite likely there are other less apparent factors involved.

For the past few years the Cooperative Wildlife Research Unit of the Pennsylvania State College, working cooperatively with the United States Fish and Wildlife Service, and the Pennsylvania Game Commission, have been conducting experiments in forestry and game management in the "Barrens." They find it an interesting laboratory of natural science. With ownership of the lands now resting in the Game Commission, their experimental studies will in all probability be intensified. One or more game refuges will be set up within the area before long, although the major portion of the 5,108 acres will remain open to public hunting.

Scotia was a prosperous town in the mining days, numbering about 400 in 1895, and still counted 50 families in 1910, although mining had been discontinued. Many of the houses were sold in 1911, carted away, and finally the railroad was taken up in 1921. The old grade now constitutes the main road (dirt) through the "Barrens." (See illustration on page 25.) A few families, however, did not leave until about 1924. The last house was torn down in 1937, and all that remained until a few months ago were the ore pits, the ruins of an ore washer and some shrubs and trees.

At the westerly corner of the area purchased by the Game Commission lies Tow Hill, a name given to a settlement of Negroes, about the time of the Civil War. It is said that two or three important stations in the "underground railroad," which aided escaped slaves, were located in the vicinity. Some of the Negroes remained, cleared land and raised flax. The light yellowish fibers clung to their clothing and hair, so they were called "towheads." The colony settled on a hill and the place became known as "Tow Hill." Today this particular area is a mass of briars covering and surrounding a few caved-in foundation walls, and is part of Auxiliary State Game Refuge Project No. 134. Incidentally, it is not far from there to the only water in the Barrens, outside of that collected in ore pits and deep wells. It is known, or rather almost unknown, as Chimney Springs, because of its tumbled down chimney, remnant of an old house. The spring of soft water runs only a short distance before it disappears into the ground.

In recent years, the acreage acquired was well known as the Boal Lands. The ancestral home of the Boals was Boalsburg, near State College. However, Colonel Theodore Davis Boal was born in Denver, Colorado. We are indebted to Mr. Claude G. Aikens for information on the Colonel's history. He was educated to become an architect, and about 1895 was a student in the Beaux Arts in Paris. While in France he met and married Mathilde de Lagarde, a member of the French nobility, and on her mother's side a direct descendant of Christopher Columbus. Mr. Aikens supplied us with a photostat copy of the family tree of the Columbus family, prepared in 1793 under the direction of Charles III, then King of Spain, an original copy of which is in the possession of Colonel Boal's son, the present United States Ambassador to Bolivia. (See illustration on page 6.)

Colonel Boal maintained a residence in Washington, D. C., as well as one in Boalsburg. At the outbreak of World War I, he organized a troop of Cavalry at Boalsburg and went overseas with the 28th U. S. Division. After the war, he returned to live in Centre County, which had been the home of his father and grandfathers. His ambition was to become a large landowner, and in addition to buying many farms he acquired the major portion of the "Barrens" from the Huyett-McNitt Lumber Company. He had a conviction that some day it would again be a prosperous community, and had various layouts mapped under the name of the da Lagarde Estates, using his wife's family name. Of special interest at this time is to recall that he offered to sell the "Barrens" to the Commonwealth for use as a National Guard Military Reservation. Instead, the Commonwealth purchased the Mount Gretna Military Reservation in Lebanon County which was used for National Guard encampments for many years, and incidentally, was later purchased by the Game Commission and now known as State Game Lands No. 145.

Many more interesting items of information concerning the "Barrens" could be mentioned if space permitted, but no doubt the editor of the GAME NEWS will think that too much space has been appropriated. If the reader has not visited the "Barrens," he should endeavor to do so at the first opportunity.



Old railroad grade through the "Barrens" now used as a drive road.



The "Barrens"—an intermixture of scrub oak, pitch pines, huckleberries, etc., but nevertheless good game territory.

★ ★ ★ CURRENT TOPICS ★ ★ ★



George W. Hensel, Jr.

In Memoriam

Within six days of each other in early February two of the Commonwealth's most well known individuals passed on to their great reward—Doctor Henry M. Beck of Wilkes-Barre on February 2 at the age of 75 and George W. Hensel, Jr., of Quarryville on February 7 at the age of 76. Doctor Beck, who was associated with the dental profession for more than half a century, was widely known as a sportsman and specialized in collecting unusual big game mounts. He was an honorary member of the New York Museum of Natural History to which he contributed the world's largest Bighorn sheep. His favorite hobby, up until recent years, was breeding and exhibiting champion setter dogs.

George W. Hensel, Jr., or "Uncle George" as he was affectionately known to thousands for the past 37 years, "The Sage of Lancaster County," was the founder and Hibernating Governor of the Slumbering Groundhog Lodge of Quarryville. His fame, not only as a founder of this unique institution, but as a philosopher, was international in its scope. Americans everywhere who wagered whether or not the whistle pig would see his shadow were ever reminded of the annual ritual of "Uncle George" and the members of his lodge on February 2.

These annual celebrations drew many national figures to Quarryville and the plaudits of thousands were drawn as the faithful of the Lodge, dressed in high silk hats, bed sheets and coonskin caps, formed a stately and dignified procession as it marched through the town.

Dr. Hensel, a former newspaperman, was a hardware merchant, general consultant and advisor, and a great lover of wildlife.

Sportsmen Buy Bonds

The Blairsville Sportsmen's Association has adopted a policy of investing all surplus funds in war bonds. The association depends almost entirely on small annual membership dues, but has managed to buy $400 worth of bonds to date.

I. W. L. A. Plans For Future

In a speech before the Pennsylvania Division of the Izaak Walton League held at Reading, on Sunday, January 24, Hon. Kenneth Reid, National Executive Secretary of the League, pointed out the need for planning now for future works projects for our boys after they return from the war.

In the past much money was granted to municipalities for public works projects and was used in many ways, such as building pools, parks, court houses, etc., but very little was ever used to stop pollution of our streams or for erecting sewage disposal systems for our cities. As a result of Mr. Reid's discussion the League resolved to endorse the proper treatment of municipal sewage, the impounding of numerous small areas or "breather" type reservoirs for the purpose of lowering flood crests, raising drought levels and reducing silting in the streams, as well as creating additional needed habitat for fish and waterfowl in such small dams.

The League also went on record opposing the practice of logging the shorelines of streams and lakes because of its destructiveness to watersheds through soil erosion and silting, as well as seriously impairing the scenic beauty of such areas.

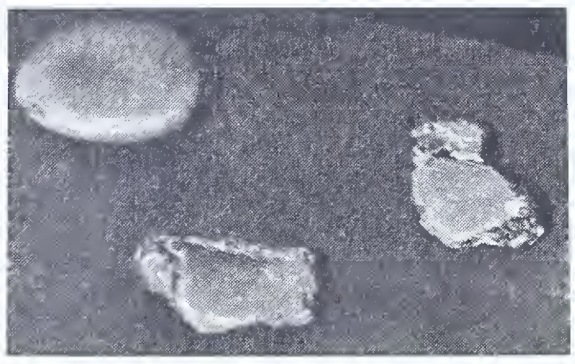


Photo by W. L. R. Drake.

The heel and two parts from the top of a shoe shown above were removed from the stomach of an 8 pt. buck killed on Dec. 15, 1942 in Dunbar Twp., Fayette County, by Mike Stines of Lemont Furnace, Pa.

Col. Henry Shoemakers Column "This Morning's Comment" for Jan. 15. 1943 gives an interesting Indian legend on bear.

Jim Jacobs, known as "The Seneca Bear Hunter," who killed one of the last native Pennsylvania elks in the flag (cat-tail) swamp in Elk county, 1867, said old Jim had many curious legends to tell of the habits of bears.

THE redmen, he said, esteemed the bear to be human in intelligence, how they would wrestle and tussle a man to the death but never hurt women or girls, having for them an admiration for beauty such as African hunters assert is the case with the gorilla, and hold them as captives, bringing them food such as berries and fruits and showing them the same courtesy and attentions an elderly suitor would in similar situation.

ONCE near the Nicholas place, said Jim, he had come across a bear playing leap frog with a small steer, which kept up until tiring of the sport, he vanished in the brush. They say that the first bear was a warrior who hid himself under a pile of bear furs to avoid entertaining a saint, much like the prophet, Handsome Lake.

Knives Kill Japs

If you have a hunting flnife around the house, the Army would like to put it to use—killing Japs.

So pressing is the need for such weapons that the Army has promised to ship the knives by plane, placing them in the hands of fighting men as soon as possible after collection.

The knives must have a blade at least four inches long. Broken handles will be repaired.

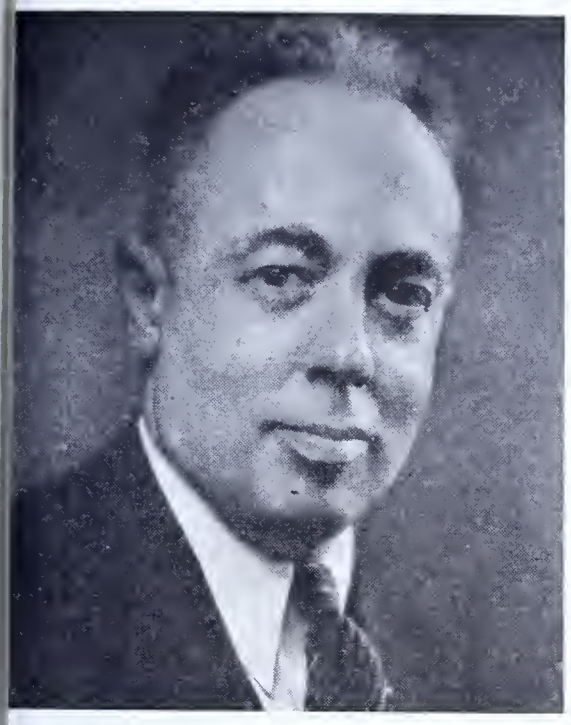
If no local agency is handling this matter in your community forward your knife c/o "Hunting Knives," 1025 Columbus Avenue, San Francisco, California.

HIS young squaw excused herself, saying she was a lone widow, and as such was by custom exempt. But the wise man knew better and pulled the tribesman out from under the furs, saying, "From now on your race can continue to wear bearskins, you need not bother to entertain wise men, you can stay a bear."

FOR this reason bears have a hankering for the fair sex, the founder of the race having had a pretty woman as wife. There were many cases, old Jim said, of women and girls rescued from bear dens, known to him. but never once had the captives been harmed.



Mrs. Mary A. Spencer, Corry, Pa., now 74, has hunted small game over forty years without missing a season. Her ambition is to add six more seasons to her record. Do we wish her luck? I'll say we do.



Hon. M. F. Crowe,
Chairman, Senate Game Committee

Highway Toll of Game

This year S. W. Jackson, District Engineer of District No. 1-0, Pennsylvania Department of Highways, Franklin, again furnished the Commission a complete record of dead animals and birds removed from State Highways in his district. Time and space will not permit the species by counties; however, the totals are given and they are surprisingly large in certain instances. Fine cooperation!

Game Birds & Animals	*1941*	*1942*
Rabbits	8,728	9,125
Groundhogs	464	415
Squirrels	174	159
Skunks	1,748	1,797
Raccoons	**27**	**25**
Deer	31	23
Opossums	298	695
Weasels	10	18
Muskrats	49	59
Foxes	3	4
Porcupines	16	17
Minks	1	2
Grouse	35	36
Quail	29	23
Woodcocks	8	20
Ringneck Pheasants	203	157
Miscellaneous Hawk, Owl, Snake, Etc.	153	330
Totals	11,977	12,905

Domestic Fowl & Animals	*1941*	*1942*
Chickens	348	442
Ducks	19	10
Cows	5	4
Turkeys	6	3
Guineas	...	2
Cats	1,178	1,011
Dogs	544	504
Horses	5	2
Sheep	3	1
Hogs	3	2
Mules	...	1
Totals	2,111	1,982

Commission Elects

Although the names and official status was listed in the masthead for March, time did not permit the announcement of the new officers of the Commission for the current year. At its meeting on January 28 Hon. O. Ben Gipple of Harrisburg was elected President, succeeding Hon. Ross L. Leffler of McKeesport, and Dr. C. E. Phillips of Sunbury, Vice-President, succeeding Hon. Robert Lamberton of Franklin.

Recognition

For years the Senate and House Committees on Game Legislation have done a splendid job of helping formulate laws that would better enable the Commission to administer the wildlife program of the Commonwealth. This task was not always easy and demanded much of those serving in both branches of the Legislature. So that sportsmen may become acquainted with them, if they do not already know them, there is pictured to the left Hon. M. F. Crowe, Chairman of the Senate Committee on Game, and to the right Hon. Wilbert D. Imbrie, Chairman of the House Committee.

Record of Big Game

Species—White-tailed deer

Measurements:	Left	Right
Length on outside curve A	23½	23
Circumference of main beam B	5	
Circumference of burr C	7	
Greatest spread D	22	

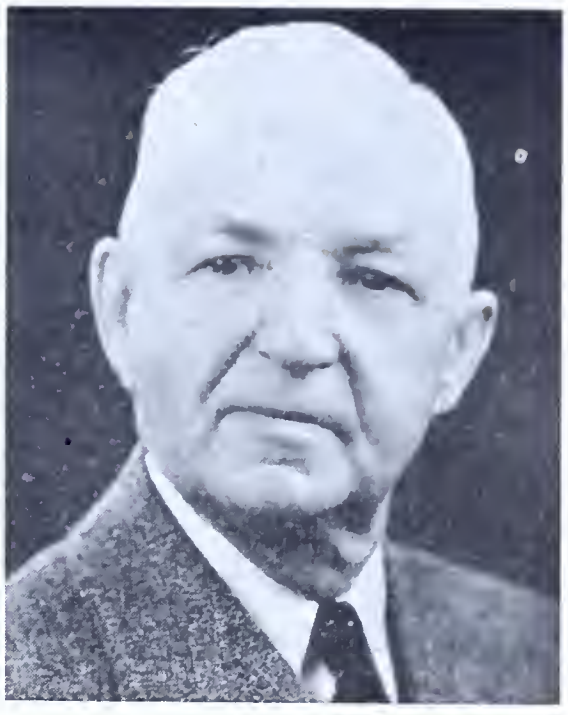
Number of points on each horn: Right—4 Left —4

Exact locality where killed—Franklin Twp.
Date killed, December 7, 1942
By whom killed—A. L. Rose
Owner—A. L. Rose
Address—New Milford, Pa.
Remarks: This deer weighed 215 pounds hog dressed.

"I got my deer on November 30, 1942, at about 9:00 a.m. in Franklin Township. The animal hog dressed 200 pounds and had eleven points. At the widest spread they measured 22½ inches. The measurement between the tips was 11½ inches."—James C. Foster, New Milford, Pa.



Photo by F. W. Eurich.
Adam Bucher, Jr., Telford, Montgomery County, with albino ringneck shot by his father last hunting season.



Hon. Wilbert D. Imbrie,
Chairman, House Game Committee

Missouri Sells "Bundles for Wildlife"

Bundles of shrubs and trees to improve the environment for farm game and other wildlife will be distributed in Missouri next spring by the Missouri Conservation Commission. Bundles, each sufficient to plant an average fence corner, gully or farm pond margin, and containing 700 plants, will be sold at $3.00 each to applicants placing orders through the office of their local extension agent before February 1, 1943.

An average bundle contains 40 red cedar, 15 ponderosa pine, 25 black walnut, 20 black cherry, 10 Osage orange, 25 flowering dogwood, 75 wild plum, 175 elderberry, 40 prairie rose and 75 wild grape. These, properly arranged, will provide food, escape cover and year-round shelter cover for quail, rabbits, song birds and other wildlife. Diagrams and directions for planting are supplied by the Commission.

New York Deer Kill Tops '41 Total

Despite gas rationing and other war restrictions, New York sportsmen reported taking *13,865 deer, an increase of 395* over the 1941 figure, according to the Conservation Department. The Department estimates the total weight of the bag at 1,700,000 lbs., said conservatively to be worth $700,000.

New Hampshire deer hunters, like those in Maine, New York and Michigan, enjoyed an excellent 1942 season. They had the second best deer hunting season in the State's history, according to Bob Elliot of the New Hampshire Fish and Game Department. The tabulation of 1942 deer tags has reached 5,000, slightly under 1940's record figure.

The favorable deer situation in New Hampshire has prompted the introduction of a bill in the legislature to permit the director of the department to extend the season up to two weeks next fall in such areas as he may deem wise.



Two splendid trophies taken in Londonderry Twp., Dauphin County, about a mile and a half east of Middletown, during the past season. Left Russel Garver with an 18 pt., 23½ in. spread, 210 pounder; and right, H. Gingrich with a 6 pt., 17 in. spread, 140 pounder. Both were scale weighed. Another deer killed in the same trip by E. Bashore was a 7 pt. and weighed 119 lbs. All three were taken about 2 miles from the Susquehanna River and about 20 miles from any deer country.

NOTES FROM THE FIELD

Believe It or Not

"While trapping rabbits for restocking, I caught a rabbit and a small white weasel in one of the box traps. The rabbit had evidently killed the weasel, and the rabbit seemed unhurt. This same thing happened to one of my agents by the name of Kroft, except that the rabbit and the weasel were both alive."—Game Protector Frank E. Couse, District 10, Division "E."

"Received several complaints from fox hunters in regard to some large wild dogs that were running along the Clarion and Jefferson County line. It seemed that everyone got interested in these dogs and were on the lookout for them. They would show up in certain sections, then they would leave and show up some other place. On Saturday, January 24, Mrs. Charles Hanson, Corsica, Pennsylvania R. D., called and said that they had killed one of these dogs out of a pack of three. This dog was a very large one—somewhat larger than an ordinary police dog. I would say it would weigh about 70 lbs. It was rather red on the back, and had coarse, long hair. Most of the people termed it a wolf, but it was not the color of a wolf, and didn't have the head of a wolf."—Game Protector Lester J. Haney, District 9, Division "E."

"Our live trapping program got off to a pretty good start. In exactly two weeks, over a hundred rabbits were caught. All appeared in excellent shape. Weather conditions the past week have not been too favorable. With the snow practically gone the catch has fallen off. With more snow I feel sure the catch will jump upward. Besides rabbits the agents caught three opossums, one skunk, and one Fox Terrier. The dog appeared none the worse for his few hours of enforced captivity. In fact he appeared in a much better mental state than his mistress.

"After a number of failures to rid the City of Allentown of the Starling Nuisance in the down-town section, the Police Department started a hunting expedition which met with success.

"Prior attempts having failed, it was decided to shoot them. Just at dusk, when the birds were flying to the buildings to roost, several officers appeared on the tops of the buildings with shot guns, using very fine shot and light loads. As the birds were flushed they shot into the flocks. An evening's shooting netted several bushels. And believe it or not, the birds were not wasted. There was always, on hand, a throng of persons who wanted them for culinary purposes, and the reports are that they 'Whet the appetite.' "—Game Protector James A. Brown, District 3, Division "A."

Game Protector W. J. Brion, District 8, Division "E," also reports feeding approximately 150 wild turkeys in various parts of his district, which comprises a portion of Clinton County. Several flocks were discovered feeding along the Pennsylvania railroad tracks near Keating, upon wheat dropped from leaking grain cars. One bird was killed by a train near that town. It was in good condition and weighed 17 pounds. Protector Brion also said that seven deer were killed in his district during January on the railroad and highway.

"We have been putting out feed for many deer coming into the driveway and field next to the refuge house. Recently when some of them came into the yard at noon there was a yearling white deer which had a little brown on its head and two or three spots on its back with them. It was shy and the other deer picked on it quite a lot. Finally getting tired of being picked on it went down across the road and into the refuge."—Acting Land Manager Robert L. Sinsabaugh, Slate Run.

"When you see an old turkey hen on the Fourth of July with eleven young turks; see them in August weighing about seven pounds; see them again in September all intact; watch them sneaking away under their mother's guidance when they have noticed a human being nearby; see them several times in October slipping away from the feeder and disappearing in the brush—then as the thunderous sounds of many shotguns boom nearby as the hunting season opens, see them carefully maneuvering away from the approaching hunter, or perhaps the amateur turkey caller who slips the proper notes, and then taking shelter in the nearby refuge.

"See the same dozen on Thanksgiving Day leaving the feeder, and almost having heart-failure for you know there are only a few remaining hunting days left. See them several times in deer season; talk to several groups of deer hunters who have tracked them in the snow; again seeing their tracks in the refuge, but still fearing some deer hunter will try a sneak shot.

"The season silences, snow comes, freezing weather that hardens the soil. Then you note their scratching here and there for their natural foods, still calling at your feeder, still intact, seeing their glossy coats, knowing they are in the pink of condition. Ain't it a grand and glorious feeling?"

"This repays the many trips you have made to feed the game. Early feeding in your refuges will in most cases hold the game, keep it healthy and give you the everlasting pleasure of seeing it in the woods. Thus, I *saw turks, feed them, kept them.*"—John Dittmar, District 9, Division D.

"Game has been feeding very regularly from feeders built throughout Districts B-3 and B-6 this winter. Squirrels are working on the hemlock cones and seeds to a large extent. We have experienced several rather heavy ice storms in this section of the State this winter and it has made it very hard for the grouse to find buds in some localities. The trees were so heavily loaded with ice that practically no buds were left exposed.

"The deer in this section are yarded in the heavy cover and swamps and appear to be in good physical condition so far."—Game Protector M. R. Miller, Districts 3 and 6, Division "B".



Photo by Mr. Reidy.
Gray Squirrel Hunting Camp, Milford Twp., Juniata County, owned by Paul Reidy, Lewistown.

"Sunday, January 24 while on patrol for dogs chasing game in the Lamont Section of Elk County, I happened to meet Dick Pierce, President of the Hi-La Sportsmen's Club. He at once confided in me that a neighboring farm boy had discovered a bear hibernating in an old slashing about a mile and a half from Lamont, and offered to guide me to the scene. When we arrived, we found the bear denned up under an old log that had been heaped over with a mass of limbs, brush, etc. She had a very snug retreat and was in quite a heavy stupor; however, she did raise her head a little but didn't seem disturbed by our presence. Occasionally we could hear a low bawling sound that evidently came from her cubs, though none could be seen. Mr. Pierce stated that on the previous Sunday trip no sounds had been heard and it is evident that the cubs were born during the week between January 17 and January 24. A gas lease worker had passed within thirty feet of the den several days a week but never realized a bear was so close. If it hadn't been for the farm boy's dog no doubt she would have been unnoticed all winter.

"While on patrol along Indian Run for dogs chasing deer, on Friday, January 22, I noticed a doe deer running fast towards me down an old wood's road. When within thirty yards she finally noticed me and it was comical to see her "put on the brakes" in the deep snow and duck off to the neighboring side hill. She was quite winded so I back-tracked her to see the cause of her fright. She had been running steadily for probably three quarters of a mile when I came to a fair sized stream, and I was quite surprised how clever she was at hiding her tracks. I soon saw that dogs had been following her but had lost her tracks long before. When first jumped by the dogs, she had made for a small ravine, then waded down the water until she came to the larger stream; this she crossed at a fording place, ran upstream some twenty yards, re-entered the stream and followed it down perhaps sixty yards, then got out on the opposite side from where she entered and was on her way. She was so clever at trickery that even in a foot and a half of snow I had trouble following her moves. Needless to say the dogs lost her pronto. This particular section, handy to town, is overrun with dogs and evidently the deer learn from long experience the proper tricks to employ to confound their pursuers."—Game Protector Theodore C. Carlson, District E-5, Division "E."

"We had a funny one happen with a skunk in a box trap. An agent found the skunk when he checked the traps early in the morning. He left it there and called me to help get it out of the trap. We arrived there about noon. To our surprise the trap was empty. There were no other footprints around the trap, and the trap had not been moved by any other person. We are positive there was a skunk in the trap. Yet the trap was empty, the door open and on the wire, and the treadle ready to spring the door shut."—Game Protector Clair W. Dinger, District 2, Division "F."

"Ronald Morrow, Secretary of the Horton Township Sportsmen's Association of Brockport, Elk County, had an amusing and unusual experience feeding game this winter. He is a Rural Mail Carrier in that district and takes a bag of feed with him on his route. Where he sees signs of game he places feed for it. At one point along his route he located a ringneck cock bird and gave him some feed. Every day thereafter between 10:30 and 11:00 a.m. he would find the cock bird along the road at the regular place waiting his arrival and his daily ration of feed.

"The Horton Township sportsmen have been very active this year feeding game. They placed many feeders built at the expense of the club. Over each feeder a shelter 10 feet square was built to keep out the snow. The club purchases its own feed and has already paid out over $50.00 for a mixed grain and grit combination furnished by me. The club has always been ready and willing to cooperate. At the present time the membership is over 350, of which number 75 are in the service of their country. The club owns $3,000.00 worth of U. S. War Bonds."—E. L. Shields, District Game Protector, Division "E."

"On a recent trip to Game Land No. 93 I noticed some serious damage caused by porcupines. They have eaten the bark and completely girdled some young sturdy beech trees. There were about fifteen of them eaten. They were three to six inches in diameter and from twenty to forty feet high. Some had the bark eaten from the ground to the tips. They were all nice trees that we had released to make more game feed. This is the first time I have noticed them eating the bark from the beech. On other places on this land the porcupines have eaten the bark from witch hazel and sumac. This has destroyed some more good food producing shrubs."—Game Protector Clyde W. Decker, Division "E."

"For years my fellow officers, located in counties where crows roost, have enjoyed some fine shooting on the flyways leading to the roosts, and on numerous occasions have invited me to spend an evening on the flyway; but, for one reason or another the opportunity never presented itself. However, on December 31, 1942 I finally found time and the right place to experiment with a phase of crow shooting which was entirely new to me.

"At 4:15 p.m. (War Time) I placed a mounted Great Horned Owl in a tree about 5 feet above the surrounding pines, which were but 12 to 14 feet high. Using two different toned crow callers I managed to get some excellent shots as the flights passed over. Fired 100 shots and killed at least 75 crows, many were fighting mad and flew within 10 feet of the gun. A few weeks later I managed to pick another good flyway and bagged approximately 50 crows with 65 shots."—Albert Bachman, Game Land Technician, Division "A."

"The other night I had the good luck to observe an opossum carrying nesting material to his den. I have often heard of the versatility of the opossum's prehensile tail, even to stories of eggs being carried long distances in this fashion, but this was the first time I had witnessed its use.

"When I first came upon the animal it was crossing the road with a bundle of leaves fully eight inches in diameter, grasped in its tail. After running up the roadside bank it disappeared down a hole. The leaves were carried with the base of the tail on top and the end curled up underneath.

"I'm now very curious to know how the opossum manages to gather a bundle of leaves of that size and then is able to hold them securely in place while it walks or runs for some distance. I guess the beaver isn't the only animal that—sorry, that's another tale."—Roger Latham, R. D. No. 2, Chester, Pa.

(Continued on page 32)



Photo submitted by Ralph McCoy.

Greenlee Hunting Camp, Stone Valley, Mifflin County, bagged some nice ones last season.

Some Game Census Methods

(Continued from page 9)

a paced strip. The width of the strip was the "flushing distance" of the jackrabbits. Then by using the following formula the total number of rabbits can be calculated: cattle on range: cattle tallied equals jackrabbits on range jackrabbits tallied. The method assumes that the same percentage of both cattle and rabbits are not counted because the area censused was brush land. (8)

Beule now studying cottontail rabbits in Pennsylvania has worked out a method of indicating the abundance of rabbits on a given area by taking a pellet count. His method is based on the pellet count census developed by Taylor and Vorhies. This is accomplished by taking numerous random samples on the total area by dropping a wire square that covers one square foot of the area. The number of pellets within the square are then counted and the total averaged, giving the frequency of pellets on the whole area. This method has been checked by complete trapping and appears to be a fairly reliable census method. But it must be further tried before it can be proved reliable.

Kenoyer suggested that the relative abundance of mammals could be obtained by counting the number of individuals on unit areas. A number of quadrats equal in size and cover type are laid out. For the best results 25 to 100 quadrats should be counted. The quadrats may be of any uniform size large enough to contain a good sample of the area. If a species occurs in all the quadrats it has a frequency of 100 per cent; if in only two quadrats out of 50 it has only 4 per cent frequency. (4)

Dice recorded the abundance of snowshoe hares in the northern peninsula of Michigan, from August 21 to 29, 1927. He drove an automobile over the main highways of the peninsula, stopping every 10 to 30 miles, wherever the cover seemed suitable. The areas adjacent to the road were examined for the characteristic pellets and runways of the hares. He examined 37 places and 33 of these showed fresh signs of the presence of animals. This is a percentage of 89, and shows a fairly good population. Since no other species of rabbit or hare occurs in the region studied there was no danger of confusion with any other form. (4)



Beavers are comparatively easy to census because of their limited numbers. They are easily caught in specially designed live traps.

Although such a system may, in a rough way, indicate the abundance of hares, it has too many possibilities for error to prove a good census method. If his samples had been taken at fixed mileages, the results would have given a much better account of the snowshoe hares on the whole area. Seton obtained a measurement of trend of rabbit populations through a long period of time by using the sales of rabbit skins. He obtained his data from the Hudson's Bay Company.

Bag record, now obtained by many of the states are useful as indicator of trends in abundance of game. An error may enter if there is a great change in the number of hunters and hunting methods. But nevertheless, such data will give a rough index as to the abundance of game.

Some attempts have been made to mark mammals so they may be identified by their tracks. R. L. Trippensee at the University of Michigan, tried the application of soluble stains on the feet of cottontail rabbits. This technique is still in the experimental stage and its value has not yet been determined. (4)

The abundance of tracks is a fair index of the number of rabbits, and with low density populations they may be used to amount to a fair census. In areas of dense population it is impossible to even make an intelligent guess as to number. (11)

Grinnell suggests the substitution of time units for space units in censusing animals. The individuals seen per day or per hour are listed. This method may be used to show the comparative abundance of a species at different places or at different times. This system may be valuable for bird census, but too few mammals are easily seen or abroad in the daytime to allow anything like a complete record of the species inhabiting an area. (4)

"Our census methods of today are sadly lacking for many of our important species, and we can only look hopefully to the increasing activities in wildlife research for the knowledge of habits which allow us to get the fundamental information on populations with which to make a beginning in sound management." (11)

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Game in National Defense

(Continued from page 3)

it easier to be slipshod about shooting, but that attitude is totally and tragically wrong.

In the woods it is the man armed mentally who can get the game. He is ready, and he takes his shots. He may be clean or dirty; old or young; but he almost always has had a long period of correct thinking as basis for his productive shooting. If you can't actually take your shots and get your game, you are his inferior in living requirements. He has what survival requires. You don't. As you differ from him, you show the decay in citizenship that leads to the death of nations.

Hunting and shooting in Pennsylvania should be expanded in war, rather than neglected. The young boys must be kept coming along in right channels of thought, and older people must be reminded of what is behind the situation in New Guinea today. Home shooting is an effective aid in keeping up morale and backing up the fighting spirit. And readiness and skill in shooting, with right attitude in National Defense questions, are not things you can turn off and on again without long preparation. They, like water from a faucet, come forth after we toil and buy and construct supply lines from proved sources of the pure stuff we want.



Left to right: Louise, Ira and Lorain, daughter and sons of R. N. Hamilton, Warriors Mark, Pa., with fine trophies bagged the first four days of last season. Louise—8 pt., 180 lbs.; Ira—8 pt., 156 lbs.; Lorain—14 pt., 162 lbs. All killed less than a mile from house in Halfmoon Twp., Centre County. The 14 pt. was a spotted buck.

Notes on The Federation

(Continued from page 16)

17. Requesting the Commission to discourage newspapers from including reports of fatalities not directly caused by firearms along with news reports of those directly attributable to gunning accidents.

18. Recommending the planting of more food plots on State-owned lands.

19. Recommending that if there is a 15 day season on woodcock that it be from October 10 to 24 inclusive.

20. Recommending that bear season for 1943 be November 24, 25, 26 and 27 and that deer season open November 29.

21. The conference rejected a recommendation that the Commission discontinue all importation of rabbits and spend the funds formerly used for this purpose to increase rabbit propagation on the Game Farms and to extend trapping operations in over-populated areas.

22. Concurring in a recommendation of the Cambria County Sportsmen's Association favoring an open season for quail and grouse for 1943 identical with that of 1942.

23. Recommending that salaries of the field forces of both Fish and Game Commissions be increased 15%, or to the maximum, whichever comes first.

Other Resolutions

24. The Federation voted to promote the following measures:

1. Recognize the urgent necessity of providing additional help to our normal forest fire protection services.
2. Ask all local clubs to secure volunteers for the Forest Fire Fighters Service of Civilian Defense.
3. Urge each County Federation to encourage all local clubs to aid this program.
4. Ask each County Federation to assist the County Chief of the Forest Fire Fighters Service in making contacts with the local clubs and the individual volunteers.

25. Opposing the present method of logging in some parts of the State by the Department of Forests and Waters and requesting that timber be disposed of in a more workmanlike and safe manner and that proper provisions be made for reestablishing a new forest on areas so cut.

26. The conference approved that copies of all resolutions acted upon by the Board of Directors the day before the general convention be mimeographed and handed to each delegate in order to insure proper consideration of, and expedite voting on, such resolutions.

27. Recommending that in view of the discontinuance of WPA that the Federal Government continue the mine sealing program in Pennsylvania using conscientious objectors for labor.

28. Recommending that hunters and their dogs keep out of unharvested fields of soybeans.

29. Recommending that the Legislature appropriate sufficient funds to continue the mine sealing program in accordance with the joint plan to be adopted by the Federal and State Governments.

Afternoon Session

This resolution concluded the business of the morning session, which adjourned at 12 noon. The afternoon session reconvened at 1:45 p. m. at which time it was moved to reconsider Resolution No. 1. Charles Nehf of Allentown spoke at some length on this resolution and asked that the Federation reaffirm its stand of 1937, 1938, 1939, 1940, 1941 and 1942 for ear-marking an increase of fifty (50c) cents in the fishing licenses to be used for the acquisition and maintenance of public fishing waters. The word acquisition was not in the original No. 1 resolution which was adopted earlier in the morning. After reconsidering it was moved to amend Resolution No. 1 to include "and the acquisition and maintenance of public fishing waters."

31. Recommending that the Sanitary Water Board adopt a finding of facts and policy that there is a practical means of preventing culm and coal dirt from entering the waters of the Commonwealth of Pennsylvania.

32. Recommending that the proper legislative steps be taken to make sure that the war effort is not used as an excuse for stream pollution.

33. Recommending that the Federation, by some means, give recognition to the officers of the Federation, Divisions, and County Sportsmen's organizations who are now in the armed forces of our country.

34. Recommending to the Governor that Hon. Charles A. French, Commissioner of Fisheries, be reinstated at the close of his present term.

35. Recommending a change in legislation that would enable the Game and Fish Commissions to issue free hunting and fishing permits respectively to members of the armed forces stationed within the Commonwealth, and to any Pennsylvania resident member of the armed forces stationed beyond the State boundaries, but in the State on leave.

36. Reaffirming its position on Resolution No. 44, 1942 convention, recommending that a Dog Law Enforcement Officer be appointed in each county.

37. Recommending that the Constitution and By-laws of the Federation be amended to adopt an additional rule that would require that charges against members or personnel of the Game, Fish, or Forestry Departments, be made in writing signed and verified by affidavit of the complaint before the representatives of the Federation proceed with an investigation.

38. The Federation placed itself on record as opposed to any club or group leasing hunting or fishing rights for themselves only.

39. The Federation opposed the recent activities of the new appointees to the Game Commission, to wit: Messrs. Gipple, Harwood, Fisher, Phillips, and Hanes, and they approved the withdrawal of all these names by Governor Martin and recommended that none of them be reappointed. It also went on record as fully supporting Ross L. Leffler, Robert Lamberton, Colonel Biddle, and Seth Gordon, Executive Director of the Game Commission, and the present Fish Commissioner, Charles French.

40. Recommending that a Conservationist be included on both National and State Planning Commissions.

41. Recommending that Section 22 of the Pennsylvania Dog Law be amended to make it illegal to destroy or kill any licensed dog except when such licensed dog is caught in the act of worrying, wounding or killing livestock or poultry or attacking human beings.

Below are two paragraphs of Section 22 of the Pennsylvania Dog Law which can easily be amended to meet the provisions of the above resolution by simply striking out those words included in the brackets: "Any unlicensed dog that enters (any field or any dog that enters) any field or inclosure where livestock or poultry are confined shall constitute a private nuisance and the owner or tenant of such field or their agent or servant may kill such dog while it is in the field or inclosure without liability or responsibility of any nature for such killing."

"Licensed dogs (when accompanied by their owner or handler) shall not be included under the provisions of this section unless caught in the act of worrying, wounding or killing any livestock or wounding or killing poultry or attacking human beings."

42. Recommending that the official name of each county unit be printed in the Annual List of such organizations and their officers as published by the Federation.

43. Recommending that the Game Commission continue the present method of dog training areas.

44. Recommending that the Game Commission be requested to appeal to the proper authorities of the Federal Government to release for sale to the hunters of this State, a reasonable amount of ammunition considering the war's demands for the 1943 hunting season. The plan to be used is similar to present rationing methods. Upon purchase of a 1943 hunting license that two extra cards be attached to the license, one card to be used to purchase shotgun shells and the other high power rifle shells, one box of each to a purchaser of a license. The individuals who do not require a hunting license would have to appear before a District Game Protector and receive cards for the purchase of ammunition.

Election of Officers

Dr. Darlington R. Kulp, Reading, First Vice-President during the past year, was elected to the office of President succeeding Merrill C. Merritts of Altoona. Colin Reed, Second Vice-President during 1942, was elected First Vice-President with the understanding that he assume the duties of the President in the absence of Dr. Kulp, who is now in military service. Upon Clair Groover, of Lewisburg, was conferred the Second Vice-Presidency, and upon Dr. C. A. Mortimer was again bestowed the job of Secretary-Treasurer.



Charles Gibson, of Brackenridge, Pa., is a patriotic hunter. One day last season he went for rabbits and came back with—a load of scrap. He hunted and hunted but not one bunny did he get. But he noticed a lot of scrap lying around so he loaded all he could pick up in his car and brought it home. Good work, Mr. Gibson.



Photo by Leo A. Luttringer, Jr.
Hoofless deer, a yearling fawn that was brought in from Berks County by Game Protector Albert R. Bachman.

FIELD NOTES

(Continued from page 29)

"Near S.G.L. No. 30 in Norwich Twp., Mr. Allan Hyde has been putting out game feed and one of his regular visitors is a large raven which comes in and gets his meal along with the rest of the game."—Game Protector Claude B. Kelsey, District E-2, Division "E."

In his monthly report for January Game Protector Arthur G. Logue, Potter County, claims that more wild turkeys are being fed in that county this winter than have ever been heard of in that north tier section. Protector Logue says the birds are the genuine article and if they survive this winter there is reason to believe that they will become permanent residents of that area. He said that Game Protector Hunsinger found the telltale marks in the snow of a wild cat's attempt to kill one of the turkeys but the officer's approach apparently frightened the cat. The turkey was still alive when he reached the scene.

Protector Logue also said that deer are now being seen in large herds on south slopes of the mountain where the snow is becoming thin, and that some farmers fear that much damage will be done to their new clover seedings and winter wheat by the animals.

"We have a nice lot of pheasants left over for breeders this year. One feeding station has as many as fifty birds coming in for feed. And as usual this feeder is being taken care of by a lady who has been feeding pheasants for several years and does not hunt. Others get the benefit of her work. Here again it is the hand that rocks the cradle is the hand that feeds the world."—Game Protector Francis E. Jenkins, District B-5, Division "B."

With the Boys in Service

(Continued from page 17)

"Have had intentions of writing for some time but never seemed to get any further than just intending.

"Finally made it to the last stretch between me and my wings and Commission. Eleven more weeks and this part of it will be over. It has been a fairly rough course so far too. But I've managed to get along so far and expect to make it the rest of the way.

"We start dropping bombs in two weeks or less, so far our work has been on the trainer, using the same sight that we will use in the air. And even Dick Gerstell's Climoactometer isn't one tenth as complicated as our Norden Bombsight. It's really a beautiful piece of machinery. May have one installed on my pistol after the war to use in matches with the wolves of Division "G".

"The biggest news except for, or even including, the eleven weeks to go, is that I'm being married on the 21st of March—Pennsylvania girl, no Texan for me.

"Give my best to all the folks around the office and write whenever you can. Would like to hear the news from the home front."
—Av/C N. M. Ruha, Sqdn. 2, Flight C, A.A.F.B.S., Midland, Texas.

Your Heritage

(Continued from page 21)

of forest land each year, all through carelessness and neglect.

Our National Government, knowing the necessity of protecting our forests, has set up a unit in our Civilian Defense to be known as the Forest Fire Fighters Service. This is a strictly volunteer unit without pay, the same as all other units of Civilian Defense. Its purpose is: 1. To provide fire fighters, equipped and trained. 2. To acquaint the forest community of their responsibility in fire prevention and suppression. 3. To provide an opportunity for people in and near the forests to participate in our war effort. We need your help. See your local Defense Council, forest fire warden or district forester and join the F.F.F.S.

Do you value your heritage? Then prevent forest fires, it pays. Plant trees for future forests.

One of Montana's goats has been doing more than its share to aid in the war effort. Named "Hitler's Goat," he has been shipped to agricultural events all over the state, to be "sold" in various War Bond auction sales.

He was doing all right, according to latest reports.

Harvest the Crop

(Continued from page 1)

before to bring about a speedy victory for our country. Some recreation is vital. Also, assuming that gunners bring in one duck for every four shells fired, it becomes obvious that they are alleviating the meat shortage at the average cost of about eight cents a pound—and there are millions of pounds of game to be harvested!

Let us rush military training and war production, but let's not rush blindly. Gunning experience has proved of inestimable value to men now in our Army and Navy, particularly in the air forces. Hunting is an American tradition and an abundance of wildlife is an American heritage. Let's not throw it away in mistaken fervor. Let's win the war, but let's harvest our crops as we go, sensibly and with an eye to the future.

DAVID M. NEWELL

Reprinted from Feb. 1943, issue of FIELD & STREAM

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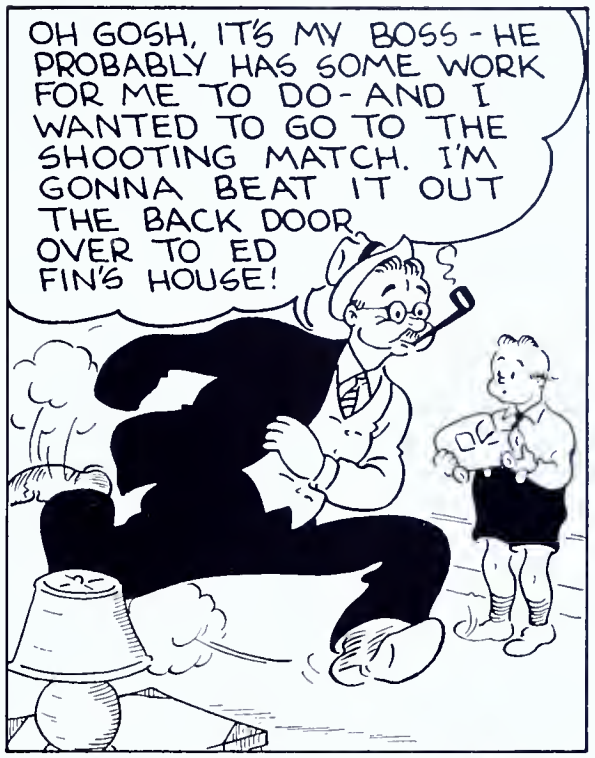
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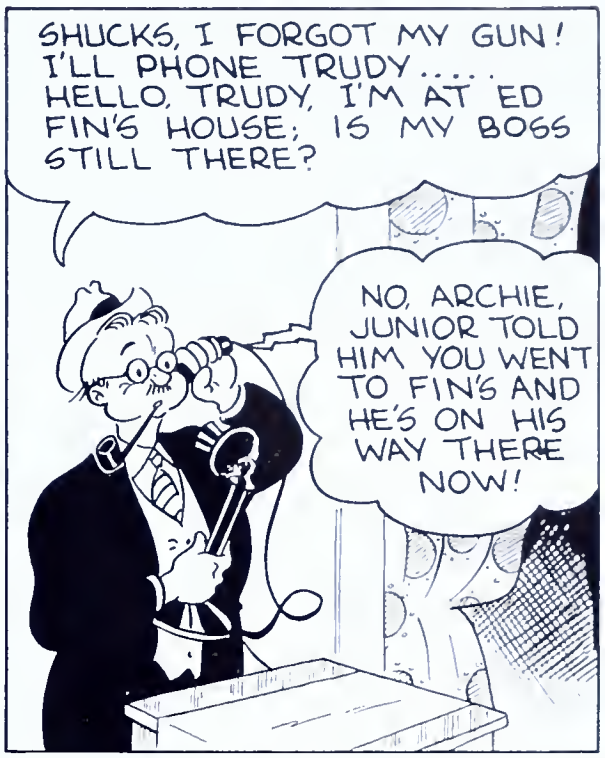
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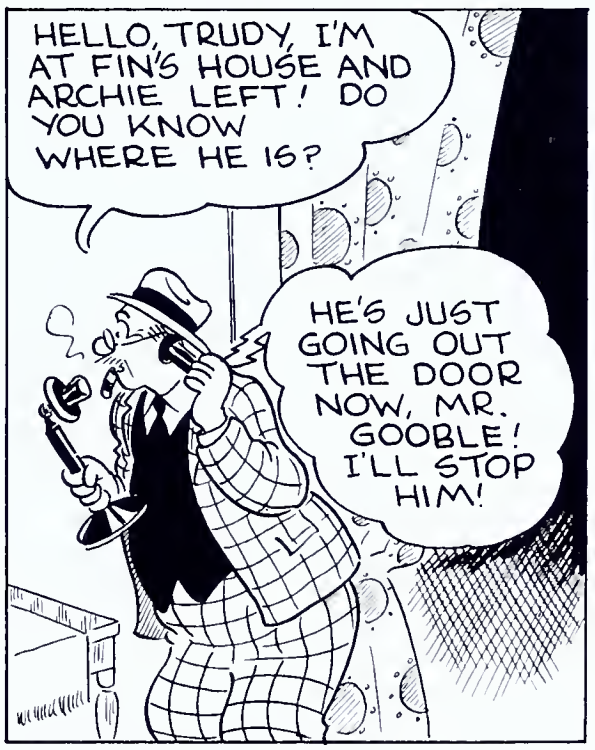
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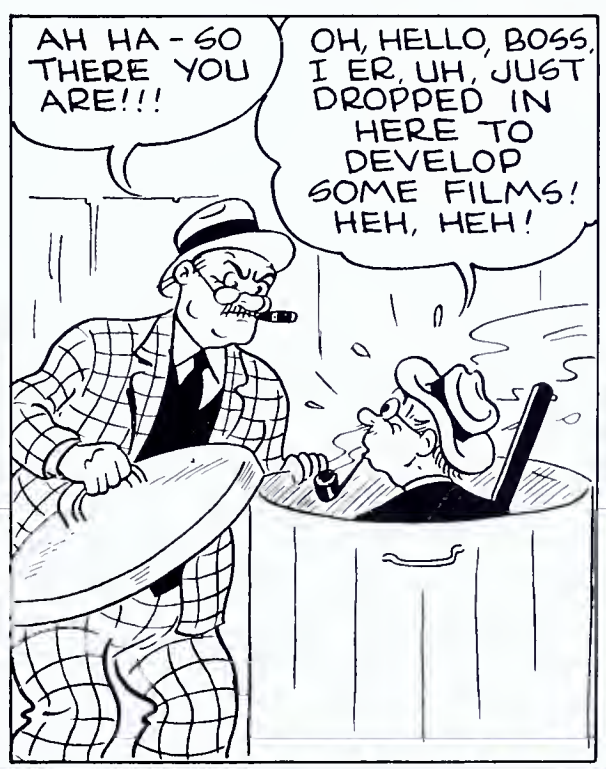












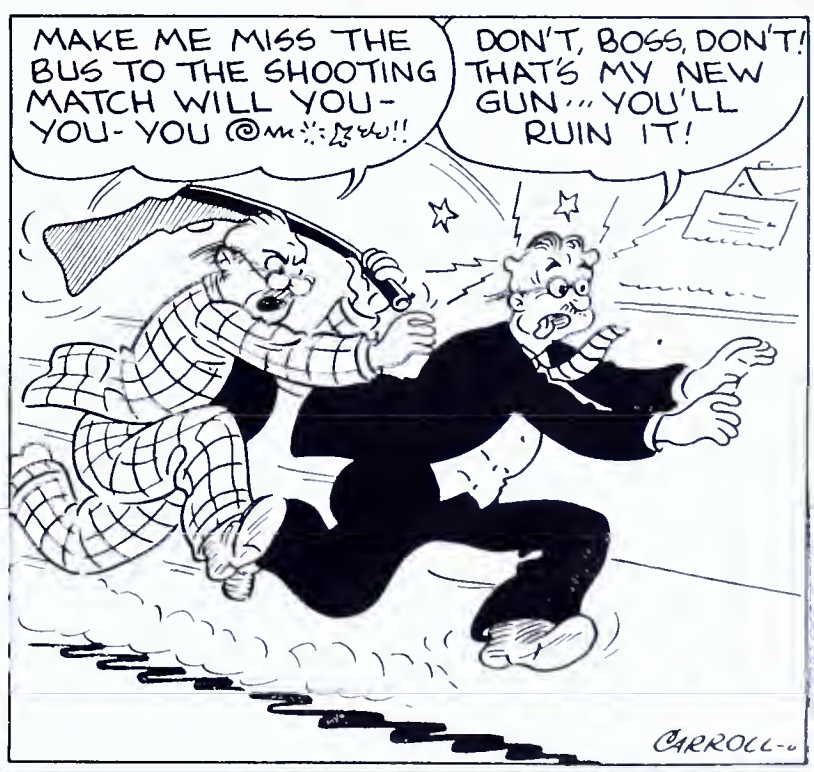




Photo by George W. Koehler

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GAME NEWS



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EDITORIAL

MAY, 1943

IN THIS ISSUE

☆

Off-sized Shot and Odds and Ends of Ammunition
By J. R. Mattern

★

A Naturalist in Uniform
By Sgt. Frederick A. Ulmer, Jr.

★

Report on the Eighth North American Wildlife Conference
By Seth Gordon

★

Log of Rattlesnake Shack
By A. B. Champlain

★

Hats Off to N. R. A.
By The Editor

★

'Possum Hollow
By Paul P. Prugh

★

Planting by Air
By William G. Simon

★

Rabbits and Victory Gardens
By John B. Miller

★

Reactions of Trapped Animals
By S. V. Sedlak

★

Serving Those Who Serve
By Leo A. Luttringer, Jr.

★

Cover by Jacob Bates Abbott

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The Effect of War on Our Natural Resources and Their Future

THE value of our natural resources during war has been proved many times since Pearl Harbor. Lumber is being used extensively in making ships, airplanes and many other materials. Wild animals are being "drafted" for their fats for making explosives. Large game animals, particularly deer, are being "harvested" during hunting seasons to utilize their skins for making gloves, vests, etc., for the members of our armed forces. Our American soil is still feeding half the world.

Game birds and animals are furnishing the sport, which in turn makes fine soldiers—men who from many days afield with gun and dog learned how to take care of themselves in the woods, how to match wits with wildlife, how to shoot quickly and accurately. Many a hunter, because of his coordination and timing while sighting on a fast flying grouse or a high-tailing deer, no doubt won his laurels as an airplane pilot or a machine gunner.

Incidentally, there is a debt we owe our sportsmen soldiers—that of keeping the ball rolling until they get back. They will be hankering to go after more "peaceable" game when they return, and it is up to us to see that there is enough of it in the coverts to appease their craving to hunt for the pure love of it.

Yes, our natural resources are playing a vital part in winning this war. We should be thankful that they have been managed so wisely throughout the years. Those who have had this job to do for the Federal Government and the forty-eight States are to be highly commended; the sportsmen and conservationists of the country are also to be highly commended.

I wonder sometimes just how much old John Q. Public appreciates what is being done to protect and perpetuate our natural resources. I emphasize this because I believe the broad theme of conservation needs to be planted deeply in the minds and hearts of *all* our people; that it must be taught to every school child in the country.

We can't reclaim good rich soil that has washed down the creeks and rivers, but we can prevent other soil from sharing that fate. We can't forever draw on our timber supply or carelessly cause forest fires and not plant more trees to replace those cut or burned. We can't relax the vigilant protection of our wild creatures.

The whole program of conservation is going to be more thoroughly understood and subscribed to by the American public after than it was before the war. In army camps everywhere are soldiers who were hunters and fishermen, and it goes without saying that the subject of dog and gun and rod and creel are favorite topics of discussion among these men.

As a result of this association there are going to be a lot more conservation-minded fellows who can be counted upon to strike a blow for our natural heritages if and when it becomes necessary to do so. I receive quite a few letters from the boys in camps and I have noted in them, come hunting or fishing season, a poorly concealed homesick yearning for crisp November mornings when the frost is on the pumpkin and all nature is bathed in the multi-colored cloak of Fall, or for a tumbling trout stream in the Spring when all life is blossoming into a new and vigorous existence.

That is why the people of Pennsylvania and every other State must accept and preach conservation, not only of our natural resources, indispensable as they are, but of *everything.* We all hope this war will end all wars though we have no proof of it; but, surely we are not, when it is over, going to be lulled into a state of false security or let our interest in things—conservation, trees, birds, animals, etc.—wane because we *think* we have no immediate use for them, or any particular further use for that matter. To the contrary we must plan *wisely now* the whole future of our natural resources so that we can always enjoy them *recreationally,* utilize them *economically,* and still maintain a sufficient reserve for *emergency purposes.* In other words, we want to be able always to eat our pie and have it too.



YES! HE MEANS US TOO

Dogs are needed by Dogs for Defense to send to the Armed Forces. The specifications and breeds are: Dogs must be 20 inches or more in height at the shoulder and weigh over 50 pounds, dogs that cannot be intimidated by strangers, one to five years old, pure bred or cross bred. Airedale terriers, Alaskan Malamutes, Belgian Sheepdogs, Bouviers des Flandres, Boxers, Briards, Bull Mastiffs, Chesapeake Bay Retrievers, Collies (rough), Collies (smooth), Curly Coated Retrievers, Dalmatians, Doberman Pinschers, English Springer Spaniels, Eskimos, Flat Coated Retrievers, German Shepherd Dogs, German Shorthaired Pointers, Giant Schnauzers, Irish Water Spaniels, Labrador Retrievers, Norwegian Elkhounds, Rottweilers, Samoyedes, Siberian Huskies, Standard Poodles, Wirehaired Pointing Griffons, and cross bred dogs of any of these above breeds. If you have or know of any dogs that qualify write W. Newbold Ely, Lieut. U.S.C.G.R., Director for Pennsylvania, Dogs for Defense. Mr. Ely would also like the names of additional people who will take a German Shepherd bitch, and after she is bred keep her and the puppies until the latter are weaned.

Off-Sized Shot and Odds and Ends of Ammunition

By J. R. Mattern

HUNTERS may well be advised to begin now to plan their next season's ammunition supply. Manufacturers may or may not supply dealers with a new stock, but have not advertised any intentions to do so yet. Dealers ran out of many sizes of shotgun and rifle cartridges before the 1942 season was half over; and at this early date, few of them promise new supplies.

Yet inquiry about the country, and a careful reading of the sporting magazines, indicates that enough ammunition is on hand in Pennsylvania to do the usual amount of hunting and to bag the normal number of birds and game animals in 1943. There will be none to waste, and none for pleasure. Target shooting and alignment of sights must be confined to a few shots. But think how few shells you actually used on live game in the woods. Make an effort during the spring and summer to obtain this number, and no more. You likely will get them, and everybody will be happy.

It may be necessary to use almost any sort of load that will fit your gun. For instance, in one locality all shotgun shells were exhausted except those containing No. 2 shot. This is turkey and goose medicine. An owner of a 16-gauge shotgun tried three shells against the side of an abandoned corncrib; aiming at 3½-inch by 7 inch envelopes pinned up at different spaces.

From 25 yards, his choked barrel riddled the envelope with the No. 2 pellets. From 35 yards it put 8 pellets in the paper; and from 45 yards it put in three pellets. These are killing patterns in anybody's language, on grouse, rabbits and even on squirrels.

The modified barrel was also fired at the three ranges; and placed 10 pellets in the envelope from 25 yards; five pellets from 35 yards, and still three from 45 yards.

This hunter discovered, incidentally, that his patterns were aimed and centered 10 to 12 inches to the right and slightly low. This error he corrected by proper holding. He then used No. 2s effectively on small game during the rest of the season. In December and January he used them on foxes; and made kills at ranges up to 60 yards. The No. 2 pellet goes entirely through a fox at such range; and is thick enough in pattern to place three to seven pellets on a gray fox from the choke barrel.

Years ago BB shot was popular, and was used on all sorts of game. Many misses were registered beyond 35 yards, the bird or animal escaping right in the pattern; but an amazing lot of game was bagged.

Another locality this year seemed to have, in 12 gauge, only some old trap loads containing No. 8 shot. The ducks were coming in one morning, placing great pressure on some of the boys; and some of them went out to the bluffs with only this little sprinkling material. They came back that afternoon with ducks, and plenty of them.

It seemed that at 30 yards, the No. 8 pellets penetrated well through a duck's body; and brought the birds down regularly, hit all over. At 40 yards, and 50 yards the No. 8s merely annoyed the birds. When the 30-yard rule was learned and applied, there was no more ammunition shortage. On geese and turkeys, such fine shot should be aimed only at heads and necks.

There is no apparent scarcity of round balls and rifled slug loads for shotguns used in big game hunting. But get your 25 shells during the summer.

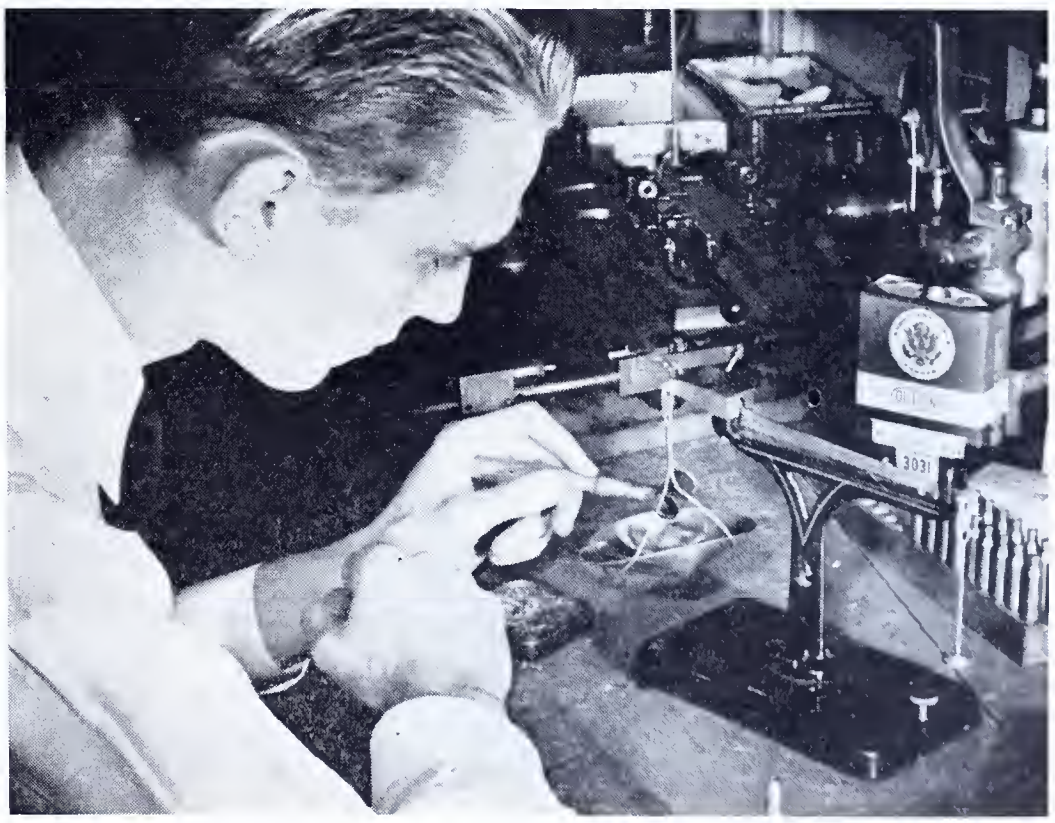
Rifle ammunition will likewise be found here and there, in the hands of hunters and dealers. Many a hunter uses less than ten cartridges in a season. He doesn't like to go into the woods with so few, but a little coaxing may induce him to sell you the other ten he is holding.

There are still a goodly number of odd sizes of rifle cartridges in dealer's hands, even though 30-30's are hard to find in some localities. Learn what may be available, and if your size is not there, try obtaining use of a rifle somewhere for some size of cartridge that you can get.

An excellent and fairly sure source of rifle ammunition is the classified advertisements of individuals and dealers in such magazines as the *American Rifleman* and several of the sporting magazines. If you are stuck, look them up.

Finally, there are the reloaders. In most hunting communities somebody has loading tools; and they are plentiful about cities. And tools are still to be had from the manufacturers, as well as powder from various sources. Primers are scarce, but not unobtainable. Members of a National Rifle Association club in any community frequently have tools.

You may have to be satisfied with a cast bullet load; and you may have to search through old pockets and in the junk box for fired cartridge cases. But the reloader always will be able to fix up two or three dozen re-loads entirely capable of bringing down a deer.



Experienced civilian handloaders are busy in spare time war work, supplying police, guards, State guardsmen and Minute Men needed ammunition.

Photo National Rifle Association

A NATURALIST IN UNIFORM

By Sergeant Frederick A. Ulmer, Jr.

Reprinted Courtesy Fauna, Zoological Society of Philadelphia

IT WAS a cool, sunny day in early spring when I marched into Camp Lee, Virginia, with my O. D.'s (woolen olive-drab clothing) still reeking of naphthalene, and my "service" shoes bright and shining. Pungent, black soft-coal smoke was issuing from the tall barracks chimneys, and all around were the rustle and roar of a big Army Camp. But above the thud of marching feet and the sharp commands of "non-coms" I detected other sounds. On a telephone wire overlooking the commotion, a very blase mockingbird poured forth his mimicry, and from farther away, on puffs of wind, came the shrilling of spring peepers and the rasping of swamp tree frogs.

Then and there I decided to set out on my first free night to collect some of the choristers. Behind the Officers' Barracks was a grassy slough, an ideal place for frogs, and there, with flashlight in hand, I found myself at eleven-thirty one dark night—ankle-deep in cold water. I crouched low to avoid a sentinel walking the nearby road and waited for the frightened frogs to sing again. Soon distant ones began, and their rasping notes moved closer until they rose all around me. Then I turned on the flashlight to watch the frogs swell out their throats, for all the world like boys experimenting with bubble gum. I, in turn, had a flashlight turned on me.

"Halt! Who's there?" came the challenge.

"Private Ulmer," I replied sheepishly from the middle of a puddle.

"What the (one word censored) are you doing there, Private Ulmer?"

"I'm just catching frogs, Sir," came my quavering reply.

"Well, come out of there and let me see you!"

After doing a lot of splashing I appeared before the sentinel. He must have been satisfied with my appearance, for he not only allowed me to go back but instructed me in his method of catching frogs "back home."

By grapevine telegraph, my exploits made the rounds of "A" Company of the Medical Battalion, to which I belong, and I soon was dubbed, "Jungle Jim."

One day I found myself under arms as a sentinel, with instructions to walk around the Battalion Area and call the Corporal of the Guard if I needed assistance. All went well until I spied a slimy salamander wriggling in a ditch. Catching it was easy, but holding on to the slippery thing was another matter. I tried to carry it as I walked my post, but it kept sliding through my fingers, leaving a trail of slime behind it. Now it is very bad form to leave one's post while on duty, so I shouted for the Corporal of the Guard. He came running, with visions of a bad fire or a riot, and when I asked him to walk my post while I caged my salamander, he appeared on the verge of exploding. However, he took my club with a withering glance and I got rid of my slippery pet.

Mockingbirds were always a part of the Camp Lee scene, and I thought them very mannerly birds until the time I spied a mocker's nest in a juniper tree close by a row of tents. Quickly I climbed up to take a peek. No sooner did I pop my head over the edge of the nest than three fledglings jumped out and fluttered to the ground. Down I climbed and gently carried the babies back, one by one. Just as I put the last bird into the nest and breathed lightly they jumped out again, and I had to start all over.

While this was going on, the parent birds were diving like Stukas and pecking me heartily, and the sharp juniper needles were stabbing me viciously. A crowd of soldiers was attracted by my strange behavior, and one big Sergeant, with a maternal instinct, shouted, "Hey! Leave dem boids alone."

"But I'm trying to put them back in the nest," I remonstrated.

"I saw you take dem boids out of dat nest! Now leave dem alone!" snarled my new adversary.

Finding the air force now strengthened by ground troops, I decided that discretion was the better part of valor and beat a hasty retreat.

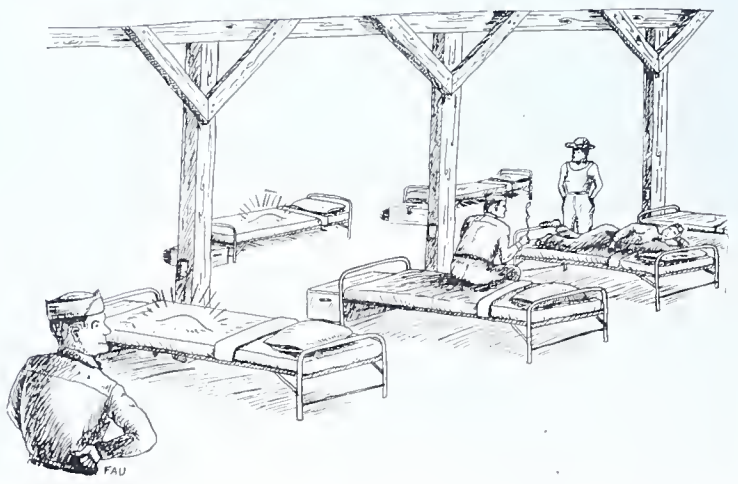
The boys in my platoon were a tolerant crowd and few objected to the "varmints" that usually were to be found in a box under my cot, or in my foot locker. In fact, they often made use of them. If some of my spotted turtles or "stinkpots" were missing, I had but to walk through the squad rooms hunting for suspicious-looking bumps under the bed covers of the follows who were not well liked.

Now turtles were all right, but some of the boys drew the line at snakes. The night I carried five feet of husky pilot black snake to the latrine for a swim and a drink in the washtub is a good example. Unfortunately, the snake decided to make a tour of inspection and glided up the pipes to the washbowls, and along the shelf below the mirrors. Razors, combs, and tooth brushes flew in every direction as naked forms poured out of the room. I apologized profusely, but profited by the experience because previously I always had to wait in line for a shower.

Luckily for me, the Company Commander did not object to my snakes. Perhaps this was due to my remark that soldiers of the



"Halt! Who's there?" came the challenge.



"Suspicious looking bumps always meant turtles."

Medical Department *should* be interested in snakes, since our insignia consists of the winged staff of Mercury with two snakes entwined around it. This was the emblem of Aesculapius, the ancient Roman god of medicine. Still I was amazed when, instead of landing in the guardhouse together with my snakes, I was asked to lecture to the men on the identification of poisonous serpents and plants, and the treatment of snake bite. All the troops were interested in the talks, but the greatest reaction resulted when I talked to a battalion of colored boys. They listened with wide eyes and open mouths as I talked about rattlesnakes and moccasins, and when I asked for questions I was overwhelmed.

One darky said, "Sergeant, ah wunce seed a snake dat had horns on its haid, and laigs, and it wuz berry poisonous! Effen yo' whupped it wid a stick it would holler laik a calf! Now whut wuz dat?"

"Are you certain about those legs and horns?" I asked, struggling to keep a sober face.

"Yas, suh! An' it would holler laik a calf, all right!" he replied.

At this, a roar of laughter shook the hall and the Master Sergeant said, "Jones, don't you try to fool Sergeant Ulmer like that. You never saw any such snake and you don't know anything about snakes, 'cause you'd run if you knew there was one in the same county with you. Sergeant," (turning to me) "we certainly enjoyed your talk, but I just don't like snakes nohow. Just talking about them makes me creepy all over."

In these talks I tried to teach the men how to identify poison ivy, but the results were rather discouraging. In bivouac everyone has to camouflage his shelter tent with leaves, branches, and grass to fool enemy airmen. The white guy ropes at each end of the tent are very conspicuous from the air, and so concealing them is emphasized. One day Corporal Cassel, a fellow naturalist, walked down the company street checking camouflage. A lad from the Bronx proudly called Cassel's attention to his vine-clad ropes. Imagine my chagrin to learn that each and every one was neatly wrapped with poison ivy vines!

Once at mail call I was handed a dipnet from home. Remarks were promptly made about "butterfly-chasers" in the Army, and I hastened to explain that my net was for fishes. Still had to take several fellows along on a collecting trip to prove it. I pickled the fishes in rubbing alcohol (I think the Post Exchange was highly suspicious of my rather large consumption of isopropyl alcohol) and packed them in a big jar the Mess Sergeant gave me. I kept the jar in my foot locker. During Saturday inspections our lockers were required to be opened, with everything arranged in its proper position. I turned the bottle of fish on its side and concealed it with underwear. We stood stiffly at attention as the inspecting officers entered the room. Suddenly a strong aroma smote my nostrils. The bottle was leaking! The officers halted in front of my locker and eyed it suspiciously. The sweat trickled down my brow.

"Ulmer!" (I almost collapsed)—"arrange your underwear more neatly next time," said the Company Commander. With this he walked away, and my heart resumed its normal position. Now that I'm a Sergeant such trials and tribulations are in the past, for I have a room and ample space in which to keep such things. But the officers enter my room very cautiously.

On a hike I found a baby cottontail and carried it back to the barracks. Cottontail rabbits don't do well in captivity, but I wanted to photograph this one. At noon next day, I took it outside and put my fatigue hat over it while I focused my camera. Meanwhile, the boys of the platoon formed a ring around me to prevent the bunny's escape. I lifted my hat and snapped the picture. Then the fun began! The rabbit quickly darted between the legs of the men and disappeared under the barracks with twenty soldiers in pursuit. Feet and legs stuck out from under the building on all sides, and from beneath it came muffled voices, crying, "There goes the (three words censored) thing!"

My platoon Lieutenant entered the scene at this point, and I had a rather uneasy time explaining the commotion under the building. Happily for me, *L'affaire du lapin* was soon forgotten.

Oddly enough, the funniest nature incident that occurred at Camp Lee did not involve me. It happened to a fellow nature-bug, bird-sketcher Lloyd Sanford. One evening at dusk, he sneaked through the woods near the camp water pipe line looking for whip-poor-wills. Suddenly, the thundering of hoofs jarred the quiet as two M. P.'s, mounted on mules and with pistols drawn, skidded to a halt.

"Don't move!" cried one, as he waved the yawning muzzle of his .45 under Lloyd's nose. "What are you doing out here in the dark?" he asked.

"I'm listening for whip-poor-wills," Lloyd answered meekly.

The M. P.'s' jaws dropped open in amazement. As soon as they could speak again, they impolitely told Private Sanford to look for whip-poor-wills elsewhere.

A short time ago I left Camp Lee on a forty-two mile march to my new station. On the last day of the march I found a scarlet snake—a beautiful reptile, banded with red, black, and yellow in mimicry of the poisonous coral snake. In the thrill of finding a rare and interesting specimen I forgot the heavy pack on my shoulders and my weary feet.

I like this new camp for it has lots of "varmints." My first job here was to help clear the woods behind our barracks. While tearing out stumps and brush, the boys found many snakes, lizards, and salamanders, and I was kept busy running for jars and bags to put them in. Near the Mess Hall was a half-finished cistern with a foot of water in it. A spotted salamander tumbled in, and I lowered a ladder into the cistern and climbed down to get the creature. Many of the boys working in the weeds gathered around to watch the fun. Just as I reached the bottom, the Company Commander appeared around the corner of the Mess Hall.

"Ulmer!" said he, "I don't mind your snake collecting escapades, but do you need twenty men to catch that thing?"

And as I looked up sheepishly from the cistern, he shooed the others back to their work.

Where to next? I often wonder. Maybe it will be Australia. If you should ever reach Australia and should want to pay me a visit, just look for a pup-tent filled with kangaroos and kookaburras, wallabies and wombats. I'll probably be around somewhere.

Reprinted from Sept. 1942 issue FAUNA, quarterly natural history magazine published by the Zoological Society of Philadelphia.



"The snake decided to make a tour of inspection."



"I'm listening for whip-poor-wills," he said.



In 1942 a total of 233,000,000 pounds of game were harvested in the United States.

Report on the Eighth North American Wildlife Conference and Related Meetings

THE eighth annual North American Wildlife Conference, despite war conditions, was considerably better attended than anticipated, there being approximately 450 registered, representing 36 states, Canada and Mexico.

In keeping with the times, practically the entire conference was devoted to wartime problems relating to wildlife management and utilization. Recreation was also stressed and in his opening remarks Senator Walcott, President of the American Wildlife Institute, the agency which has been sponsoring this international conference the past eight years, stated that we should get reacquainted with the word recreation; that we need not be ashamed to use it in such conferences because it is essential to the welfare of the Nation at war as well as when at peace; and that we need make no apology for the use of this term. He emphasized the need for harvesting the annual surplus crop of wildlife, both because the meat so obtained is essential to the war effort and it is necessary to harvest wildlife crops in large portions of the country to reduce farm crop damage. He further emphasized the fact that failure to lay plans for a reasonable harvest of wildlife crops will mean terrific losses from starvation. I mention these statements primarily because they were the keynote of the conference.

In a post-war analysis of our natural resources Oscar L. Chapman, Assistant Secretary of the U. S. Department of Interior, emphasized the fact that the Interior Department intends to see to it that America emerges from the war with these valuable resources unimpaired. He mentioned particularly the work being done to increase the fisheries output to aid the war effort and to utilize all kinds of wildlife to that end without impairing the seed stock. He also mentioned, as an example what can be accomplished with a sound conservation program, the increase in the waterfowl supply from a low of approximately 30,000,000 birds to about 100,000,000 last fall. Although Mr. Chapman was apparently not in favor of officially killing (hiring people to do it) any surplus wildlife, he said that, if necessary, such steps would be justified to supply the additional food to aid the war effort.

One of the interesting discussions during the technical sessions was the presentation of the elk management and herd regulation problems in the Yellowstone National Park by Victor Cahalane of the U. S. National Park Service. He reviewed the history of the northern elk herd and graphically portrayed what has happened to the browse conditions by recently taken lantern slides. During the Fall of 1942 the northern Yellowstone herd numbered approximately 13,000 animals. Early deep snows forced the herds out of the park and hunters in Montana removed approximately 6,000, a much larger number than normal. Additional official killing by Park Service employees brought the total number removed to more than 7,000, leaving the herd at present in much better condition. Mr. Cahalane stated that under such food conditions the only thing to do is to bring the herd down considerably below what is considered normal in order to give the browse and other forage a chance to come back.

One point brought out by Mr. Cahalane has a direct application to our problems here in Pennsylvania. He stated that other species which ranged over the same general territory were suffering greatly because the elk herd had been permitted to get too large. He mentioned particularly the Big Horns and the antelope.

Mr. Cahalane's report elicited many questions, one of them being the effects caused by the removal of predators in earlier years, in response to which the speaker stated that the number of predators is at present considerably out of balance in relation to the big game herds in Yellowstone Park.

In view of the general sentiment that has been running rampant over the country—some for closing seasons entirely, others in favor of permitting unlimited killing, Elliott S. Barker, of the New Mexico Game and Fish Commission, sounded a note which seemed to meet with general approbation, namely, that this is no time either to close seasons or to throw down the bars and allow unlimited killing, and that it is up to wildlife administrators to demonstrate that this resource is contributing in an important way to the war effort. He also pointed out that in view of the manpower problems this is no time to undertake new projects, and that certain activities must of necessity be suspended for the duration. In New Mexico 40% of the men on the staff of the Department are in the armed forces.

I. T. Bode, Director of the Missouri Commission, in discussing "Potentialities of Wild-

By Seth Gordon

life Harvest," gave a report on his tabulation of information obtained from 36 states covering both game and game fish taken. He reported the astonishing total of 666,777,000 pounds. In connection with the value of hunting and the general interest in such sport among the men in the service at one large camp a poll revealed that if given the necessary leave the majority of them expressed their preference to go home for a few days; the second largest group said they would like to have members of their family come to see them; and the third they would like to have an opportunity to go hunting and fishing for a few days. Mr. Bode, like previous speakers, expressed the need for utilizing our wildlife crops to the maximum to help the war effort.

Albert M. Day, of the U. S. Fish & Wildlife Service, in discussing "Wartime Uses of Wildlife Products," gave a summary of the information collected by the U. S. Fish & Wildlife Service in cooperation with a committee of seven State administrators appointed by Dr. Gabrielson. He reported on only one phase of the information collected for presentation to the War Production Board, namely, the amount of food produced by hunting. He had tabulated the reports from 47 states and found that in 1942 a total of 233,000,000 pounds of game had been harvested. Deer alone accounted for 59,000,000 pounds; ducks, 32,500,000 pounds; geese and brant, 3,000,000 pounds; pheasants, 28,000,000 pounds; rabbits, 68,500,000 pounds; squirrels, 22,500,000 pounds; and grouse, quail, partridges, doves, turkeys, etc., made up the balance.

Mr. Day further reported that even though the hide and fat salvage campaigns had gotten started rather late, the results were surprising. Total tabulations on those campaigns were not yet available. He did mention, however, that according to the Federal Government's estimates at least 12,000,000 pounds of flesh from edible fur-bearers could also have been saved and used toward the war effort.



Photo U. S. Fish and Wildlife Service
Mother elk and two young in Yellowstone National Park.

Following Mr. Day's presentation, it developed that a number of states had jumped into the hide salvage campaign and found themselves with a lot of deer skins on hand which they were unable to turn over direct to the War Production Board as first planned. They were groping for ways to dispose of the skins and to get them into the proper commercial channels so that they might serve the purpose intended.

One of the discussions which attracted intense interest was the presentation by Louis W. Lipscomb of the War Production Board who had been present at the conference and attended various group meetings throughout the sessions. He frankly told the administrators that he was convinced a reasonable amount of ammunition would have to be made available for civilian use this coming Fall, but was unwilling to commit the WPB on a definite program until the necessary conferences were held in Washington. He stated the standard gauge and load shotgun shells would not be a serious problem as there is an ample supply of powder, and the base can be made from light steel instead of brass, but that the metallic cartridge for high-power rifles would present a real problem. He informed the conference that the .30-.30 and the .30-.06 are the two calibers that are most needed for big game hunting throughout the country as well as certain predator control work in the Far West.

Mr. Lipscomb definitely said that hunters could not expect the usual supply of ammunition for this Fall, and that some simple form of rationing, probably coupons issued along with hunters' licenses, would have to be worked out to supply ammunition *to those who have none on hand.* We all got the impression that Mr. Lipscomb was duly impressed with the problems which confront wildlife workers and immediately upon conclusion of his address the resolution below listed was unanimously adopted so that he might present it to his co-workers in Washington.

There were many other interesting discussions but the foregoing will give the readers of the NEWS the highlights of some of the important ones. The banquet was a strictly informal affair, with no speech making, the writer having been drafted as toastmaster, especially to introduce the celebrities at the head table. During the banquet Honorable Frederick C. Walcott was presented with the Field & Stream Trophy (silver punch bowl suitably engraved) in recognition of his outstanding service in the wildlife conservation movement. At the previous conference Dr. Gabrielson, Director of the U. S. Fish & Wildlife Service was awarded a similar trophy.

Usually the North American Wildlife Conference adopts no resolutions, but this year an exception was made and the following was adopted:

(Continued on page 24)



Photo U. S. Fish and Wildlife Service
Antelope, Sullys Hill, North Dakota.



Photo by Marty Myers
Dogwood

Log of Rattlesnake Shack

By A. B. Champlain

EDITOR'S NOTE: The June issue will conclude the splendid series of nature articles built around Rattlesnake Shack by Dr. Champlain. Those of you who have religiously followed his reminisces of weekends spent in that interesting and fascinating woodland retreat every month for the past ten years, cannot help realize what a valuable contribution he has so generously made to our readers. If you haven't followed them month to month you are the loser. If you have then you will, I am quite sure, personally express your appreciation to one who, in my humble and unbiased opinion, merits "a rising vote of thanks" for having taken the time to so uniquely and interestingly unfold that book which we all love, but sometimes fail to understand—*Nature*. Thanks a lot Dr. Champlain—and may we look for other contributions later? Don't forget the field of *conservation* is broad and you can surely think of some appropriate subject or another as time goes on. How about it?—What say readers??

MAYTIME is flower time, and from the first days at Rattlesnake Shack we experimented with the idea of a wild plant preserve. Before many years the aspect of the little camp clearing was changed. Briars were torn out and noxious weeds harassed until they became secondary in spite of prolific tendencies. Along the edges of the local swamps we discovered orchids, Aristocrats of Plantland. Yellow lady-slippers were transported to natural conditions along our stream side. Purple fringed orchids, also white and yellow fringed, were added to the collection from these sources. In proper outlay, the showy orchids and the pink lady-slipper were placed in the background. After awhile there were brought from far distant places other rare orchids to enhance our colonies. First came the showy lady-slipper, royal scion of its house, whose delicate blooms—snow white, tinged with pulsating splashes of crimson life, reared their crowns. Then followed the delicate little white lady-slipper to give grace to the setting. All this now forms a spectacle to delight any botanist, as well as laymen such as we.

There are thrills in watching these regal plants grow and bloom, from the first green spikes which thrust their way through the soil and dried leaves in the spring, to the perfect flowers. The adventures in connection with collecting orchids can only be realized after a few trips into their habitats. We are conveyed into the realm of other scarce or fascinating plant growths, and the haunts of wild animals which intrigue us with their antics.

The successful transplanting of orchids is due to careful handling; each plant gathered with its native soil, the stem and foliage intact; the ball of earth carefully wrapped in cloth to protect the roots unexposed. Do not attempt to grow these plants in your back yard, they will not persist for long in the ordinary home garden.

Ferns placed by Mother Nature's experienced hand surrounds the clearing edge. Some form the cover along the rock-strewn ravines, through which the brook flows. Others carpet the damp woods, or margin the trails. From far and near the number of fern and plant species is increased by indefatigable collectors and naturalists, who join us from time to time and share the hospitality of the shack. We mention in this connection those enthusiastic comrades of the plant trails, Dr. E. M. Gress, H. B. Kirk, Dr. T. L. Guyton, John O. Pepper and Robert Troxel.

New trees were planted among the natives of the forest round about. Also shrubs were added, interspersed with wild flowers; a future conglomeration of plant life that will sharpen the curiosity of the visitor in these parts when we have long since passed on our way.

Cultivated plants were more or less a temporary proposition. Many of them fell to appetites of rabbits, woodchucks and deer. Some could not stand the local conditions, while a few held their own with the natives. Iris and peonies come in the latter category and comprise our favorite



Photo Department of Agriculture
Striped or blue tailed lizard.



Photo by F. J. W. Horich

Dr. E. M. Gress, comrade of the plant trails and botanist of note.

cultivated varieties. They furnish us with bouquets as well as decorating the premises.

May

Our animal acquaintances continue to call as usual: deer tracks in the garden; rabbit tooth-work evident on some favorite plant; the skunks around the scrap disposal; a weasel running over the roof; or a red squirrel in the empty feeder. We hear a scolding gray squirrel as he nips the buds off from the tulip tree (Liriodendron), and a pair of flying squirrels pop out of some woodpecker hole in a dead snag. Woodchucks make daily visits to admire our flowers and eat up a few choice ones. Near the end of the month we run into baby groundhogs in numbers and this has caused us to take drastic action. Getting out our trusty insect net, we wait and watch. A young woodchuck is often a trusting individual. He may dodge a bit or just pretend to be a stick or stone. We make a swipe with the net. Our nonplussed captive, after a few futile struggles in the net, sits back to await developments. Then we take our prisoner for a walk—perhaps across the creek or way down the pipe line. Here it is freed to again take up its profession under new circumstances.

One nice day, with Roger Baker and Harriet we went down along the creek to look for trout possibilities. We walked carelessly among the herbage, watching the ripples in the stream made by the feeding fish. "Look out, a snake!" and on this May 3d we have our earliest rattler record. It was a nice specimen captured for future observation. Previous early records were May 7th and 18th, and we have seen rattlers all through the remainder of May. Milk or house snakes, which by the way never milk cows or live in houses, were often seen about the place and were allowed to go about the "even tenor of their way." A pilot black snake, however, was halted as it crossed the lawn one 26th of May. This specimen had a suspicious appearance, a collection of lumps was conspicuous all along its body. Our autopsy revealed six grouse eggs in line one after the other in the snake's stomach—all unbroken.

The blue-tailed skinks may be observed all through May; scaling the shack walls, climbing the old gum tree or on big rocks in the sun. One blue-tail became so tame it would take little caterpillars dropped near it on the porch. Box turtles excavate egg cavities in the soft dirt along the road. Perhaps the eggs will become baby turtles eventually, but the chances are that some prowling four footed vandal will dig them up for a snack.

As May nears its end the tree frogs start their weird notes in early evening, just to add their two cents worth to noises of the dark.

Maytime is also bird time, and the job is to sort 'em out. We hear the cock grouse drumming all night during summertime. "How do you know?" you may ask. Well, sometimes it is fun to stay up all night and see what is going on by moonlight out here, just as it is for some city folks to stay up and see—by artificial light. It is really thrilling! We hear unfamiliar noises and catch glimpses of moving shadows that pique our curiosity. Sometimes these vague goblins of the night may forever remain a mystery; again we may recognize some familiar creature who prefers to prowl or fly nocturnally. It may be only a rabbit, blinking his big eyes at us, but the hair-raising hoots of the barred owl nearby, will conjure up a chorus of monsters concealed in the shadowy forest. Then we inhale the breath of the night and of strange fragrant flowers, exhilarating odors for us who come from cities.

Our whip-poor-wills begin their serenade in the dusk of the evening, just as the bell-like notes of the wood-thrushes leave off. Then as the whip-poor-wills conclude with the break of day, the wood-thrushes again take up their musical entertainment, until sunrise. When moonlight is bright the whip-poor-wills call intermittently all through the night, much to the annoyance of sleepers unused to this "noise." These birds become quite tame and we have imitated the male whip-poor-will so well that his lady love has attempted to alight upon "our" shoulder.

Late in May we find mother grouse with her little flock. When disturbed she goes through all the little tricks in her repertoire to divert attention from her chicks, so they may hie away to safety. The youngsters, upon our approach, just beginning to lift from the ground, half fly and run to shelter in the herbage. At this time, May 26, our Phoebe has five young birds in the nest under the log house shed. They were just eggs around the 7th.

The indigo-buntings are among our most interesting species of the common summer residents. The scarlet tanagers also decorate the tree tops with color and entertain us with their musical ability. We see a few rose-breasted grosbeaks around the 12th, and upon several occasions the blue grosbeak has made its appearance. We have it recorded in 1932 and May 25-26 in 1935.

Hummingbirds nest on a tree in the clearing and all through the summer we hear the roar of their motors as they dash and chase through the air or visit the flowers. The call of the cuckoo is a familiar sound here too. We would like to award a medal to one pair of these birds who cleaned up a tent-caterpillar infestation on our wild

(Continued on page 26)



Blooming time at Rattlesnake Shack.

Hats Off to the N. R. A.!



Like a towering beacon, the program of the N.R.A. keeps projecting steadily ahead.

I HAVE followed the program of the National Rifle Association for a good many years, have reprinted much of its editorial comment, and excerpted many of its reports Never, however, have I had the pleasure of reading such an interesting and informative report as that prepared by C. B. Lister, Secretary-Treasurer of the Association, for the year 1942. Nor had I any idea of the real magnitude of its program, to what extent, it has been cooperating in the war effort, and its direct relation to us in Pennsylvania.

Space will not permit me to do anything more than review the highlights of the report, *but* even that will be difficult.

Of main general interest is the extent to which the National Rifle Association is cooperating with the various branches of the Service and civilian defense organizations. It is doing a herculean job, notwithstanding an appalling turnover in personnel, resulting from nine men being in the military service and about 60% of its stenographic and clerical personnel having left to take better paid positions in Government offices; notwithstanding, too, the fact that many of its suggestions and proposals in behalf of the war effort were turned down bluntly at the outset, which was discouraging to say the least.

For example, when the Association decided last February to eliminate national and regional championships in order to concentrate attention and ammunition on basic small arms instruction for the several million civilians who would soon be soldiers, sailors or marines, many in its own circle criticized privately, some publicly. It was said that there would always be plenty of ammunition—at least .22 rim-fire; that people could not be expected to give up their recreation and sport just because there was a war; that it was foolish to think that the American rifleman would give up his time to train tyros unless he was also allowed to shoot for medals and glory. Now we know only too well that there is not "plenty of ammunition and small prospect of there being even *enough* ammunition until the war ends. People *are* giving up many forms of recreation, including target shooting. And, thank God, thousands of American riflemen *are* giving up their shooting for medals and glory in order to teach the rudiments of small arms practice to men in the Service and to those soon to be called to the Colors.

Another example: On July 3, 1941, five months prior to Pearl Harbor, the Association recommended to the newly appointed National Director of Civilian Defense a five-point program for the efficient utilization of the trained civilian marksmen of the Nation. This program recommended that members of the Association be used: as marksmanship instructors for the newly organized Stated Guard Units; as marksmanship instructors for municipal police and Sheriff's departments; to establish pre-induction schools in the basic principles of small arms marksmanship; to serve as special deputies or armed auxiliary police to supplement the State Guard in protecting vital installations; to reload fired cartridge cases for State Guard and police in order to provide more training than would be possible with the restricted supply of new ammunition.

When these suggestions were courteously but firmly rejected by the Director of Civilian Defense and his Army advisers the N.R.A. editorially urged that more adequate internal security preparations be made and that the task be turned over to the combat branches of the Army.

Some months after Pearl Harbor, Executive Orders were issued clearly limiting the functions of civilian defense to unarmed activities which would "limit damage caused by enemy action" and the Provost Marshal General of the Army was at long last placed in charge of "internal security" requiring armed units.

Despite many setbacks and the loss of months of precious time, the N.R.A. kept plugging with the result that:

I. In every State which has a State Guard organization, local commanders have enlisted the services of Association members and the facilities of its clubs to provide small arms instruction which is otherwise unobtainable.

II. Hundreds of communities are utilizing the services of



Photo National Rifle Association

This photo, taken on the .30 caliber range during the 1940 National Matches at Camp Perry, Ohio, is a typical firing line scene as we knew it in peacetime. Now, these men join thousands of others, in the service or as civilians, in teaching marksmanship to millions of American men and boys.

By The Editor

Association members to give badly needed instruction to regular and auxiliary police. Many plants, for instance, are using the training manuals and films prepared by the Association, and many plants have employed its members as full time or part-time instructors.

III. Basic Small Arms Firing Schools to be conducted by N.R.A. Clubs for the benefit of men of military age have been officially approved to the extent that the Munitions Assignment Board and War Production Board have made available .22 long rifle ammunition and such rifles as can be spared by the armed services in order to make possible the conduct of schools on a nation-wide basis.

IV. With the assignment of internal security functions to The Provost Marshal General, the proposal to form civilian riflemen into special security groups trained as "home guards" in the status of reserve militia (rather than auxiliary police) was favorably received and many such units are now officially recognized. Special tactical schools for State Guard and reserve militia officers have been established in at least the First and Third Service Commands.

V. The Provost Marshal General has approved the use of civilian handloaders to increase the available supply of ammunition for proper training of plant guards. The Association has established a file of handloaders and their equipment, and the Provost Marshal General has advised all plant guard officers to contact the Association when aid is required in the development of satisfactory reloading facilities.

In summing up the first part of his report, Mr. Lister said: "Because responsible officials of the Government recognize that the hard facts of war have proven the Association's policies to be sound; because we have cheerfully accepted necessary restrictions; and because we have sincerely endeavored to cooperate with all agencies without seeking publicity, I believe that the National Rifle Association of America today stands at the peak of its prestige in official circles in Washington. I believe that our relations with the Navy and War Departments (notably the Ordnance Department) have never been more cordial. The holocaust for which we prepared for a generation arrived on December 7, 1941. We were ready. We have not failed the Nation. We have not failed our membership. We have followed a steady, constructive course without need to swerve or back-track because our policies were *right* from the beginning."

War Activities

The following brief summary of the war activities in which the Association is engaged will give you some idea of the scope and diversity of that program. For instance, it has lent aid to practically all branches of the service in the form of suggestions and advice on technical matters concerning firearms and ammunition, it set up preliminary inspection stations throughout the Country, utilizing the services of its club officers and official referees to "screen out" for the Ordnance Department hundreds of rifles, including .45-70 Springfields and .30-40 Krags, which the overburdened arsenals would have had to handle and reject.



Photo National Rifle Association

A major portion of the N.R.A. wartime activity is devoted to pre-induction training with the .22 caliber rifle for men and boys who are subject to the draft. N.R.A. members all over the country are spending their spare time teaching the basic principles of marksmanship which apply to all guns.

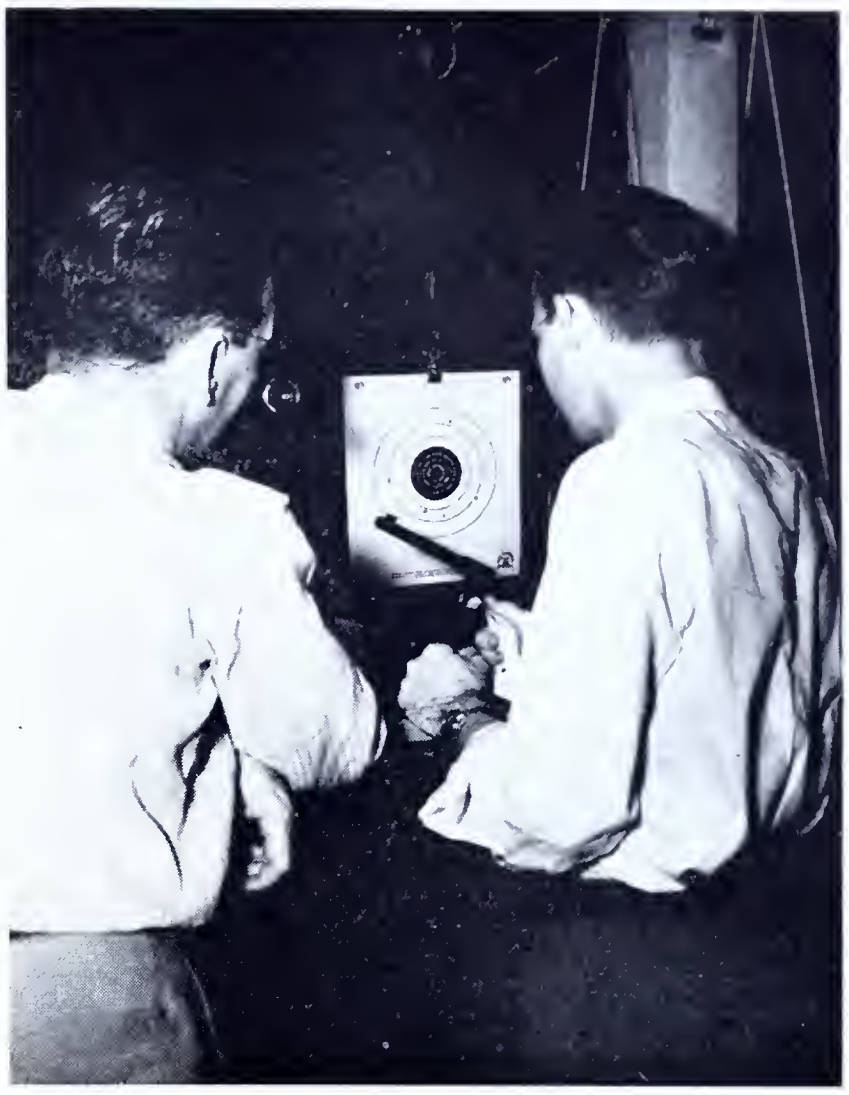


Photo National Rifle Association

Pistol and revolver training for Armed Guards and Auxiliary Police is another important function.

It located an expert on woods and wood-working who was subsequently commissioned for special duty by the Ordnance Department, and assisted in finding men suitable for duty in Ordnance Training Centers as small arms instructors.

The Association is also assisting in the development of the small arms program in the Army, Navy, Coast Guard and Marines by recommending personnel and by making available technical books, the *American Rifleman* and other literature, as well as training films and manuals.

A special bulletin covering the organization of militia units ("Minute Men") for home guard purposes was prepared and issued to Governors and State Adjutants General. The Army could not undertake the organization of troops which were purely state militia. Therefore the N.R.A. advocated the "Minute Men" plan as an effective method of forming an organization which the Provost Marshal General was not in a position legally to start.

A second manual covered the subject of industrial plant protection. It, too, was the first in its field.

A third manual covered an intensive course in practical revolver instruction for plant guards and auxiliary police.

A fourth prepared in cooperation with F. B. I. provides a training program for use of shotguns by police and internal security units. It is the only manual covering this rather unusual use of shotguns.

The largest "safety range" in the United States, built by the Navy near Newport, R. I., was constructed from basic plans furnished by the Association to U. S. Army Engineers.

(Continued on page 27)

'POSSUM HOLLOW

By Paul P. Prugh

AS WE sit idly dreaming, our thoughts, especially those of the hunter, go back over experiences of some outstanding hunt in what seems now, the dim and distant past. We recall old Jack or Queen, Don and Blue. "Yes sir," we say, "there was a great little dog for you" or "there was the best old hound I ever knew," etc. So is prompted this little yarn of "Possum Hollow" which occurred away back about the Fall of 1925 or 1926. We had finished our day's work at the plant, one rather warm evening. Harry Byron, and I, stood on the loading platform talking, when across the Allegheny drifted the long drawn out notes of a baying hound, from the river hill which rose abruptly from the water's edge to meet the blue horizon.

"How about a hunt tonight boys?" I asked, and soon it was decided to take Old Sing, my old Southern coonhound, and Sounder, the pup, for a hunt up Limestone Creek, which after that night we appropriately named "Possum Hollow."

A soft breeze floated down from the hills as we loaded the dogs in the old Model T and started chugging up the river road. As we arrived at our destination a full harvest moon rose over the rim of the Valley, silhouetting the tips of the pines against the night sky. A wonderful night to be out in the open, but not a good night for 'coon to run we surmised.

We left the anxious dogs out of the car and started down an old log road which followed the creek for a ways, Old Sing and the pup soon vanishing into the brush. After a short distance we sat down on a log and filling our pipes, listened intently for that choppy bark somewhere off in the hollow, for Old Sing was a silent trailer, who never said a word until her quarry was safely in a tree.

Soon it came, almost inaudible, from away up the hollow, Wah! Wah! Wah! over and over again, that grand old tree bark, which I think she would keep up indefinitely if you didn't find her and go to the tree. Anyway, one night we lost her, got out of hearing I guess, and found her at noon next day, still barking in the rocks, where I knew a 'coon was safely hidden from her reach.

We started towards this barking quite enthused at such early success.

"I don't believe its a 'coon, boys," I told them, "she doesn't seem excited enough." I could almost tell what was up by that old dog's bark.

Byron wanted to bet it was a 'coon that had been out early feeding.

"Where's the pup?" Harry asked.

"He'll be there," I assured him, "he hasn't started barking up yet."

We followed the sound, climbing part way up the ridge from the creek, and found both dogs perched under a little spruce, on which almost half way up sat a big Brer Possum.

We soon shook him down for the pup and were on our way again. We had no more than stopped to listen for Old Sing again, until we heard her, tuning treed on the opposite side of the hollow.

"Another 'possum," I says, "she wasn't gone long enough to put a 'coon up." And sure enough, we found another 'possum perched in a little birch sapling.

And so it was, about every half hour Old Sing would bark treed and we would go to find another 'possum, but not a single 'coon chase. Five 'possums in about a three hour hunt. Right then and there we named this hunting ground "Possum Hollow."

About eleven o'clock somebody mentioned eats and we all agreed we could about eat the bark off a tree, so decided to call it a night. In fact we were so hungry we decided to take a couple of the young 'possums along home and have a feed. None of us had ever tasted 'possum but had heard it was good, and were game to try it.

Harry said he had some late sweet corn still in his patch, so it was all settled, a 'possum and sweet corn feed. Sounded pretty good to three tired, hungry hunters.

We arrived home at Harry's about eleven thirty—where our wives had congregated to wait our return, and as we shut down the old Ford they came out to see what had been our luck.

"Where's Harry?" one of them wanted to know, and we pointed down to the corn patch and told them of the feed we were going to have, if they would cook it for us. They agreed, but didn't promise to eat any of our catch. So while Harry husked the corn, Byron and I peeled the 'possums, and indeed they didn't look bad when they were in a pan nicely cut up and washed.

Soon the savory (?) aroma of cooking corn, and frying 'possum greeted our nostrils, as we related our hunt to the cooks. We could hardly wait to sit down to that big plate of meat, and golden corn, plus the pickles and everything else which Harry's wife had added.

Well we all tried the 'possum except, I believe, the ladies. In fact I believe I ate two pieces, fried to a crisp brown, but all agreed it was a little too sweet and strong for us, and decided the dogs would enjoy it.

We did have a 'coon feed later that Fall, which was really delicious and enjoyed even by our better halves, but we didn't catch our 'coon in "Possum Hollow."



"And so it was, about every half hour we would find another 'possum."

PLANTING BY AIR

By William G. Simon

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So much has been written by able writers covering the broad field of Conservation, that I feel out of place even mentioning it. However, it is not my intention to amplify on the ground already covered, but on another angle which I have never seen mentioned in print.

Having been a hunter and fisherman most of my life, I, along with my two younger brothers, Lester and John, have devoted considerable time to planting seedling trees, shrubs and vines which furnish food and cover for wildlife, as well as ground cover for our watersheds. On trips into the forests, we frequently carried seeds in our pockets. While on the streams, we planted willow cuttings. All this is merely background to explain our next experiment.

In the year 1932 we acquired a two-place monoplane, and after Les had learned to fly fairly well, we used it to save our legs. The woods surrounding the field we were flying from had considerable Oak, Beech, some Hard Maple, etc., so in the Autumn when the seeds were ripened, we gathered them and spread them from the air by plane, principally on Game Commission Lands that adjoined the Airport. We crashed that plane, then purchased an OX5 powered Fairchild Challenger, a three-place biplane, and while we had it an incident occurred that I would like to mention here.

In the Spring fire season of 1936 while Les was visiting at the Kane Airport, a Fire Warden drove up and asked to be taken up to view a fire from the air. The plane was all warmed up and idling so they took off immediately, circled the fire a few times and landed back at the port. Within three hours from the time he arrived at the field the Warden was back to report the fire out. He claimed that the trip over the fire had saved him at least six hours and possibly many more, as well as many acres from burning. He wanted to pay out of his own pocket as the State didn't allow for expenses of this kind, but Les refused payment saying, "It was worth that time to me to help."

Then the farm we were using was sold and another was found on the Grant Road about four miles from Ridgway. It was situated in the Allegheny National Forest and about four turns of the prop from the area between Mill Creek and Bear Creek, an area that suffered severe damage from a forest fire quite some years ago and has never made a good comeback. During this time, we tried to sell the idea of Fire Patrol by Air but it didn't go over.

At the new field we resumed our seeding operations and in the year of 1939, the first year we kept a record of quantities, we spread about three bushels of assorted seeds. In 1940 about four and one-half bushels and in 1941 between seven and eight bushels of seeds were sown. All were seeds of plant life beneficial to wildlife as well as to watersheds. All this was at our own expense. Then came Pearl Harbor and the airport was closed!

Now there is talk of using the Civil Air Patrol, composed of civilian pilots flying mostly private planes, to take over the job of Fire Patrol. However, the airports in most of the smaller towns are closed for lack of guards. I want to take this opportunity to make a plea to Sportsmen's Clubs in such places to supply, during the fire season, the 24 hour armed guard necessary to keep a port open. And in return for this no doubt some workable plan could be arrived at to use the air system of seed distribution in the coming Autumn fire season patrol.

Large areas of woodland, public and private, are being cut over now to supply lumber and wood products to the general war effort and if these areas are seeded now with desirable species, in a few years they will supply ample cover for game. Also, a slashing that grows over rapidly is in less danger from fire.

Let us bear in mind that after this war, activity around the airports will be resumed and if we can't do it now we can take advantage of it then. Our local sportsmen's club (The Ridgway Rifle Club), and the Girl Scouts were our principal suppliers of seed. Unquestionably the Boy Scouts would have helped but we just didn't get around to asking them.

Trips on foot last summer over the earliest areas seeded in this fashion showed some good results, especially the Oaks. Here I want to advise concentrating more on the White Oak group as they flower and produce seed in the same year. In this way are more beneficial to game than the Red Oak group, which blooms one year and bears fruit the next.

Beyond any doubt, a large portion of the seed thus scattered were eaten by rodents and birds, but if only 10% of them germinate and grow, it will be an enormous improvement to our forests and the easiest way I know of to get rid of a lot of seed in a hurry.

Incidentally, I still haven't been able to figure out a way to plant food plots, fill feed hoppers, or supply other feeding stations from the air. Any suggestions?



We gathered the ripened seeds and spread them from the air by plane.

I SLEW THE MONSTER OF COUNTY McKEAN

Oh come gather round me you hunters so bold
A story I'd like you to hear.
I'll tell you my story but before it is told,
Hey bartender, fetch me a beer.

I was not always thus, a bum to behold,
No, far better days have I seen.
But I had the misfortune, ill luck did I hold,
I slew the Monster of County McKean.

Now in our fair county a long time ago
There roamed a gigantic deer.
Thirty points, forty points, how the stories did grow,
His rack you see, varied each year.

From Smethport to Bradford, from Clermont to Kane,
The Katherine Swamps, he had seen,
He roamed o'er it all, it was his domain
This lordly monarch, of majestic McKean.

A three hundred pounder a big one I'll swear
With three legs all dark and one white.
A scar on his rump showed out through the hair
A token, I'll wager of some rutting fight.

Now fellows a tale of sadness and woe
I promise you're going to hear.
But wait just one moment, I'm feeling quite low
Oh bartender. Fetch one more beer.

'Twas the first of December, the ground covered with snow
When I started from Frank Neely's place,
The wind came a howlin' oh boy it did blow
It doggone near froze off my face.

I circled the point, started off on the line
And headed on o'er to the slashing
I kept my eyes sharp for all sorts of sign
Boy, the snow was perfect for tracking.

I was then on the trail, you boys know the one,
It leads off to the hollow of Bloomster
I spotted the track, the hunt had begun,
'Twas the track of that venerable monster.

Like a wolf on the trail of a halfgrown fawn
That's how I trailed him, believe me,
But always I'd find that he was gone
He had circled around behind me.

All day he kept at it with me on his tail,
From Bloomster to Clermont, and then he'd cut back,
Never once did he shake me I kept on his trail
Not once did I get within sight of his rack.

The snap of a twig in the brush straight away,
A flicker of gray caught my sight.
I snapped up my gun I could see plain as day
That one of his hind legs was white.

The crack of my rifle, the buck hit the ground
I rushed up just shrieking with glee.
I stopped short beside him and to my terror found
Horrors! Damnation! Not a point could I see.

My heart nigh a bustin', I dragged out my buck,
A cryin' just like a lil' tike.
Oh it was the monster, but 'twas just my luck
This year he was sporting a spike.

Alas! people gloat, and on me heap abuse,
Nimrod the hunter, they sneer!
I could go on but oh what's the use?
Say bartender, fetch me a beer.

STANLEY NOVAK,
Deputy Game Protector,
1262 Sherman Ave., Sharon, Pa.



Young Wood Ducks. Photo D. L. Batchelor

THE DOGWOOD LEGEND

Dogwood season is perhaps Nature's most appealing effort in loveliness. Driving along the highways, the pure white or pink of the dogwood blossoms just below the green of the larger trees, appears like phantom forms, suggesting perhaps again the bride of spring in her wedding garb.

There is a lovely legend of the dogwood. We like to recall the story each season. The legend comes from out of the past centuries. Because of its hardness, it is said that the wood was chosen for the cross on which Christ was crucified.

The dogwood was saddened to be used for such a purpose and the Saviour, seeing its distress, promised: "Never again shall the dogwood grow large enough to be used for a cross. It shall be slender and bent and twisted, and its blossoms shall be in the form of a cross with two long and two short petals. In the center of the outer edge of each petal there shall be small prints, brown with rust and restained with blood. The center of the flower will be a crown of thorns. All those who see it will remember it was on the dogwood that I was crucified and this tree shall not be mutilated or destroyed, but cherished and protected as a reminder of the agony and death upon the cross." It is just a legend and history does not back it perhaps, but it is a beautiful way of explaining the markings of the flower.—Steuben (Indiana) Republican.

Rabbits and Victory Gardens

By John B. Miller

Note: We are indebted to Mr. Miller for the interesting photos on the following center spread.



In literally hundreds of suburban locations throughout the State, the cottontail rabbit will make himself a decided nuisance this Spring and Summer by raids on victory vegetable and flower gardens.

In an effort to alleviate this condition the regular commissioned officers of the Game Commission carry on trapping programs in many large restricted areas, such as the grounds and farms connected with hospitals and penal institutions, but they cannot tend traps in the dozens of smaller sections scattered over their territories. In order to satisfy the complaints of the householders, and at the same time harvest this potential crop of rabbits for the restocking of depleted hunting grounds, the Pennsylvania Game Commission has approved and adopted a plan whereby local troops or patrols of the Boy Scouts set and tend the traps, which are furnished by the Game Commission, and turn the stub-tailed captives over to the officers. In return for this service they receive fifty cents for each rabbit delivered in good condition, the money to be used for some phase of Scout activity.

Some of the advantages of this system are obvious. The rabbits are removed from the garden areas where they are doing damage. The sportsmen of the State get rabbits for restocking at a considerably lower price than they would have to pay for imported cottontails removed from garden areas or truck patches, and they are not subjected to the strain of several days of railway travel. Finally, and perhaps most important, is the fact that the Scouts, who are the coming generation of sportsmen and conservationists, are receiving valuable training and motivation along the lines of wildlife management and are learning that the Game Protector is their friend.

In one particular area, a development covering about five acres and consisting of a dozen homes near Lewisburg, twenty-two rabbits were removed during January and early February, 1943. Over a three year period fifty-five cottontails have been removed from this settlement and stocked in open hunting territory.

Rabbit Repellents

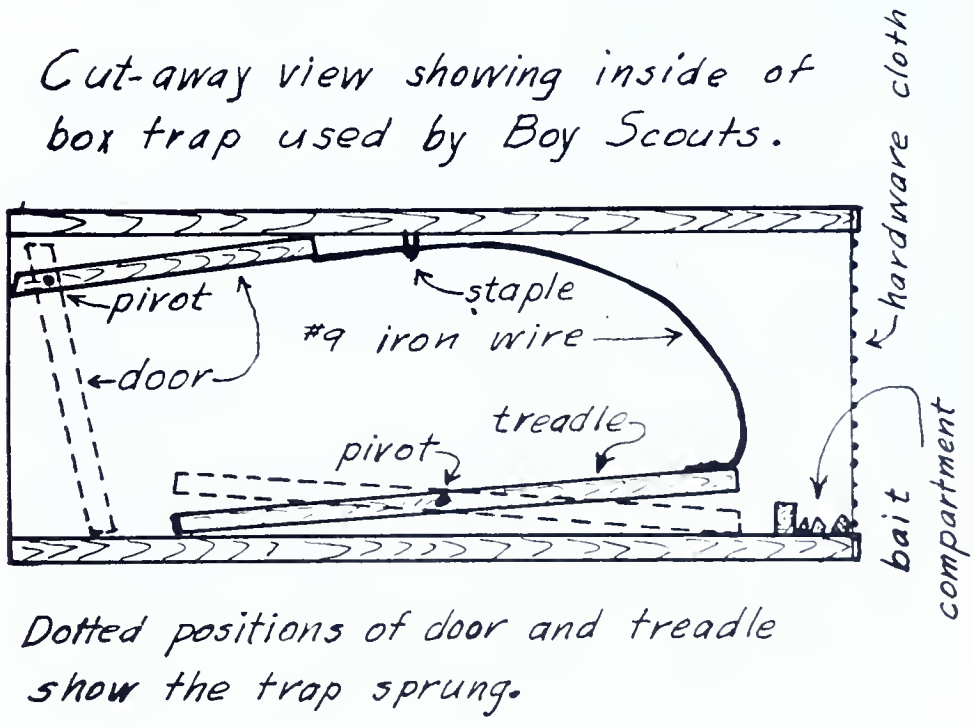
Since live trapping of rabbits during the summer months is very difficult, the Pennsylvania Game Commission, after consulting with the State Department of Agriculture, recommends certain repellents to vegetable growers. One commonly reported to be very effective is powdered lime sprinkled lightly on the plants when they are damp. The sprinkling of dusting sulphur liberally over the plants is also effective. Others include wood ashes and red pepper mixed and sprinkled on the plants; three ounces of epsom salts to one gallon of water; or one teaspoonful of creolin or lysol to one gallon of water. If properly used, none of these is injurious to the plants but rabbits do not like them.

Regular commercial sprays when properly used serve a dual purpose. Among the commercial insecticides, "Blackleaf Forty" (a tobacco extract) used in the proportion of two teaspoonfuls to one gallon of soapy water is effective in controlling many of the common garden insect pests, and is also a satisfactory repellent to rabbits.

The frequency with which the above repellents must be used depends upon the amount of rainfall and the rate of plant growth.

Some people have had splendid success by stretching rope, heavy cord, binder twine, or similar material soaked in creosote around vegetable beds a few inches from the ground. Others have used empty soft drink, catsup, or other bottles on their vegetable beds. These are placed in the ground, neck down, at few-feet intervals over the vegetable beds and apparently the reflection of light from the bottles scares the rabbits away.

Another device consists of stretching heavy string or cord around the vegetable bed about eighteen to twenty inches above the ground, depending upon the kind of crops grown, and attaching thereto white cloth streamers about a foot apart. These streamers should not quite reach to the ground, and when the wind blows they will be even more effective. Moth balls scattered around the edge of the garden or vegetable bed have been successful in many instances in keeping rabbits, as well as deer, from destroying crops. There are, no doubt, other simple and effective repellents or homemade devices which are not expensive and produce the desired results.



Many readers will remember the box trap of their boyhood days. This is a modification of it as used by the Commission.



An exposure of one one-thousandth of a second catches this fellow with all four feet off the ground.



Sweet apples, cut in small "pie sections" are the m satisfactory bait in most cases. Carrots and other vegeta are also good.



Bunnies quickly head for cover when they are released. There is no low gear in their anatomy, either.



Small animals other than rabbits are frequently fou in the traps. The "Possum" finally succeeded in getti into every trap in the neighborhood, one after anothe as fast as he was released.

Photos by John I



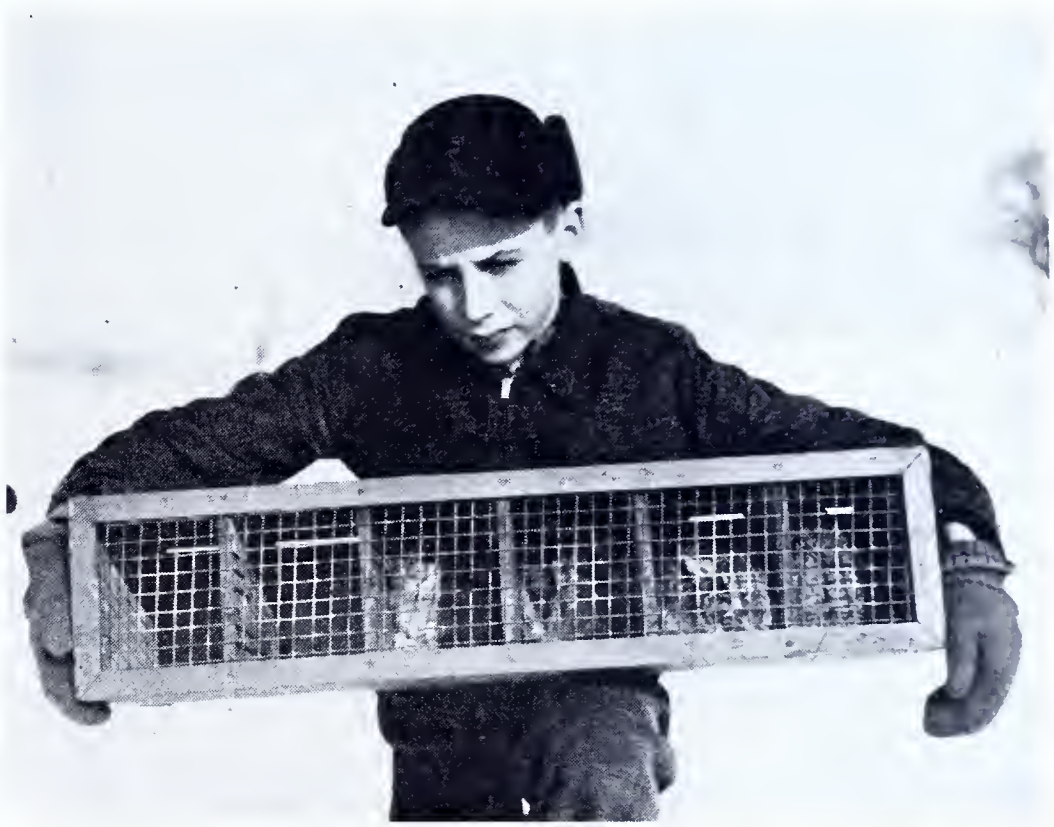
This particular trap accounted for six rabbits in a short time, largely because of it's excellent location, while others within a few yards went untouched. The arbor vitae protects it from storms and also helps it blend into a natural setting.



The scouts are taught to handle the rabbits carefully. Lifting them out by the ears and grasping the hind legs as shown seems to be the most satisfactory method.



College Park, near Lewisburg, Pa. The bushy and weedy vacant lots, and gardens and shrubbery about the well kept homes furnish excellent cover.



Two-thirds of a crate full ready to be taken out for release.



The boys like to help with the liberation as well as the trapping and are often taken along. This rabbit was released in an abandoned field at the edge of a thicket.

Reactions of Trapped Animals

By S. V. Sedlak



On the lookout for fires. Forest and field fires, the aftermath of Man's carelessness, usually result in horrible death or injury to wild creatures.

THE science of trapping consists of certain particular facts which should be clarified to be better understood. I am sure that the ways of trappers are not clearly comprehended by most people, and the question of whether the trapper inflicts severe pains on the animals which he catches is worthy of discussion. Quite a number of people believe the steel trap imposes a great deal of alleged suffering. Some of this belief originates from imagination, some from prejudice. In part there is some truth to the matter. But if we measure it in terms of percentages I feel certain only about five per cent or less could be construed as fact and ninety-five percent could be placed into a category of fallacies. Please understand that this assumption does not take in trapping as a nation-wide or world-wide subject; it pertains only to trapping done under Pennsylvania laws.

In this business of trapping as it concerns us here in Pennsylvania, there are thousands of young boys and men all inclined toward the same trapping tactics, except that experience helps to improve their technique. A beginner in the trapping game is like a beginner in anything else. Naturally he is apt to make a lot of mistakes in his initial efforts in setting traps. However, if a trapper possesses the willingness to stick and to stay he will do everything within his power to become more proficient in the use of the steel trap. As a result the time-imprisonment of his catches is minimized, and greater returns are realized.

Before we go directly into the matter of alleged suffering let us for the moment review a part of the old story of the wild. The ways of nature are based on the survival of the fittest and the struggle for existence never ceases. Day after day many lives of the lesser and weaker species are snuffed out by the greater and stronger forms. Consequently, we must conclude that in nature the victims of prey must frequently suffer a severe physical ordeal. It is true that this suffering is not long-lasting but it is, we may assume, very painful. In contrast, the pains inflicted by the jaws of a foot-gripping steel trap would be considerably less painful, since no vital organ of an animal is affected. However, here we must take into account again the fact that a wild animal is not disposed to a subdued nature, such as is common to animals which have been tamed, that confinement, whether in a steel trap, cage or enclosure, is quite unnatural, and that the creature will expend a great amount of energy to gain its freedom. In its endeavor to escape it brings upon itself a physical aggravation. The question of whether the animals suffers, much or little, with pain can be pretty well ascertained from relative comparisons of not uncommon observations that trappers of experience have witnessed again and again.

Skunks, for example, have often been found asleep while confined in traps. Raccoons have been observed in a similar state. Skunks will sometimes chew off a foot when it extends below the jaws of a steel trap, and in less common instances, raccoons will do the same. This, however, does not imply that the animal does that because it suffers with excruciating pain. As a matter of fact, there is no apparent sense of feeling in that part of the member when blood circulation has been stopped and some length of time has elapsed. Above the jaws of the trap there is no numbness and since the sense of feeling exists there, no animal will gnaw its foot off at that point. Now, when the skunk has ground away its foot below the jaws of the trap then with a little tug the animal can, and quite commonly does, regain its freedom. In a short time the stubby foot heals up and the animal is none the worse for its experience, excepting a slight handicap in traveling.

In other instances when caught in steel traps wild creatures will wring a foot off completely. This is particularly true about the muskrat. The front feet of the muskrat are small and brittle, so when this little fur-bearer gets caught by one of them it can escape by merely twisting itself around a few times. That the animal does not hie away to its den to die is again evidenced by the fact that many of such escaped animals are recaught in traps within a few days or a few weeks, and others are recaught a year or more later.

Foxes and minks will tear a foot off only on very rare occasions, but it is not uncommon for them to escape from a steel trap and leave a toe or two, or even three toes. Both of these creatures are very hard to hold in traps. Minks often die in a few hours from exhaustion expended in fighting to escape; the same applies to weasels. Not so to the fox, however. Foxes have plenty of stamina and can endure a lot more. It is a pretty well established fact that some of those which have escaped with traps, and were located only after several days had elapsed, had fared quite well in spite of their discomfort.

Some escape from the grip of the common steel trap in very short order—in a second or two, or within a few minutes—since the hold of the trap cannot, in every case, be secure. That, naturally, causes them to become a little wiser and, consequently, they become harder to trap again. In other instances the trap takes a firmer hold on the foot of the animal. The experienced trappers, of course, work on the principle of getting maximum holding power—a firm grip over the foot of the animal. A good hold spells success. The intervening time—

(Continued on page 24)



Pure waters are an asset to wildlife as well as to man.

B-O-O-M-E-R-A-N-G!!!

Australia,
February 6, 1943.

"Dear Fellows:

By this letter I wish to acknowledge the receipt of your very thoughtful gift. I received it today and although we are extremely busy at this time, I think the least I can do is let you in on something which may interest you more than the little bit I am allowed to say along military lines. I refer to the wildlife I have come across while traveling about Australia, and I have seen a lot of it, both of Australia and the wildlife.

Before I get to the game situation, perhaps I had better say just a few things about the country itself. If you know as little about the country as I did when I first came over, you know practically nothing. First, most of the country is virgin and a great part never seen by white man, unless he was flying over in a P-40 or a B-17. It is no great land of forests, like the U. S., but most of the interior is desert or grasslands, leaving just a fringe of forests along the coasts where rainfall is heavier. This coastal strip is the most beautiful part of the country and most of the cities are found here. The country is, as I said, mostly virgin with huge trees, where there are trees, and thick green grass as high as the cattle's backs which graze in it.

The farmers resemble cowboys with broad brim hats and high heeled boots. Instead of a gun they usually are armed with a bullwhip and they are experts at using them. They ride good horses, which are plentiful and cheap. In fact, when we first came over, over a year ago, they used to give them to us for nothing. It didn't take them long to catch on, however, and now they can look you right in the eye and charge you as much for a day's ride as they used to ask for the horse, if you wanted to buy one.

As for the mountains themselves, they are not extremely high, although they are higher than the one around home. Some are covered clear to the top with a heavy growth of green grass, making sheep and cattle grazing possible. Ofttimes the farmers aid the growth of this grass by ring-killing the trees, a practice which is now discouraged. Not a large part of the land, itself, is cultivated. No hay or grass crop is planted since there is enough virgin grass. When the growth is eaten down or grows old and tough, all they do is burn it over and in a few days a new growth is well on its way.

I seem to be drawing this out into quite a discussion, but before I talk about the game there is one thing more that may be interesting. That is the natives, or aboriginals.

These people look much like our negroes but usually have straight hair. They make excellent horsemen and are used very much at cattle stations or ranches. In their natural state they live much like the American Indian, using about the same weapons and tools, although I think they were considered to be not quite as far advanced.



"They can look you right in the eye and charge you as much for a day's ride as they used to ask for the horse if you wanted to buy one."

They are wonderful teachers and have been the salvation of many a crashed pilot. They have reservations set aside for them and, of course, they have access to practically the whole interior, in which they are sometimes the only inhabitants. On these reservations they sometimes give exhibitions of spear throwing and some of their games. In one of these "games" the two contestants stand a short distance apart, one armed with a bunch of spears and the other with a round stick. The man with the spears throws them at his "cobber" and, I take it, the object of the game is to deflect the spears with as little movement as possible. It takes good nerves since they are experts at throwing the things and they fairly whistle as they go directly for the chest of the fellow with the stick. The boomerang is a very deadly weapon in the hands of one of these boys. They say they can clip the head right off of a running wallaby at distances up to three hundred yards. These boomerangs travel so fast you can hardly see them, hum like an airplane, and really do come back to the sender, if he misses.

Now for the game. This letter is longer already than I figured the whole thing would be. Taken as a whole, the game situation doesn't even compare as we know it in the U. S. First, the weather is against it here. It wouldn't be much fun to go hunting in July back home and it is "July" or worse all year round here. The game itself is not as plentiful or varied. Where there are rabbits here they are so plentiful that they are a nuisance. I think there is even a bounty on them in some places. People just naturally don't seem to hunt them for sport. It seems to me they either have them to excess or they don't have them at all. The only bear I have seen here is the little Kola bear which resembles the stuffed "teddy" bears the kids play with back home. I can't imagine anyone shooting one for sport or any other reason. They don't run away and it is a simple thing to catch one. They are small, probably around 50 pounds, and live only on the leaves of a gum tree. Their only protection is their color which harmonizes perfectly with the grey bark of the tree.



"The boomerang is a very deadly weapon in the hands of one of these boys."

There are some pheasants but not of the variety we know. They are smaller than the hen pheasant back home and so tame they can easily be shot with a rifle. They are very drab in appearance, looking a little darker than our hen bird and possessing a longer and heavier tail. No fun there.

Turkeys come more along the line of sport as we know it. They are shy and it usually takes a long shot to down one. They are worth shooting, weighing, I would say, an average of 20-25 pounds. There are wild pigs in the mountainous districts and along rivers. These go up into the hundreds of pounds and are considered good hunting. An old-timer told me how they hunt them over here. I say "they" because I don't want any part of it. First you need a good horse, because they give you quite a chase. Then you locate your pig, which will run at the sight of you. You ride after him until, judging from experience, he is about on the verge of exhaustion. You must be sure he is "properly exhausted" or the next stage of the game may be your last. You hop off your horse, grab him by the hind legs and lift him off the ground. In this position he is helpless, or so they say. However, they say the same thing about a skunk, but I never wanted to prove it. You then tie him to your saddle, head down, and head for home. When close to home they cut his throat and gut him. That is the reason they don't shoot them. The hunt usually covers miles of rough country, and in the hot sun the meat spoils to some degree.

Wallaby are hunted for sport alone since they can't be eaten. Some people eat the tails but there is the same argument about that as there is about groundhog back home. Wallaby shooting is good sport and it takes a good shot to down one. They are about the size of a large police dog and cover ground with almost incredible speed. They make about the same tracks as a deer, but less of them. They, and their big brother the

(Continued on page 25)

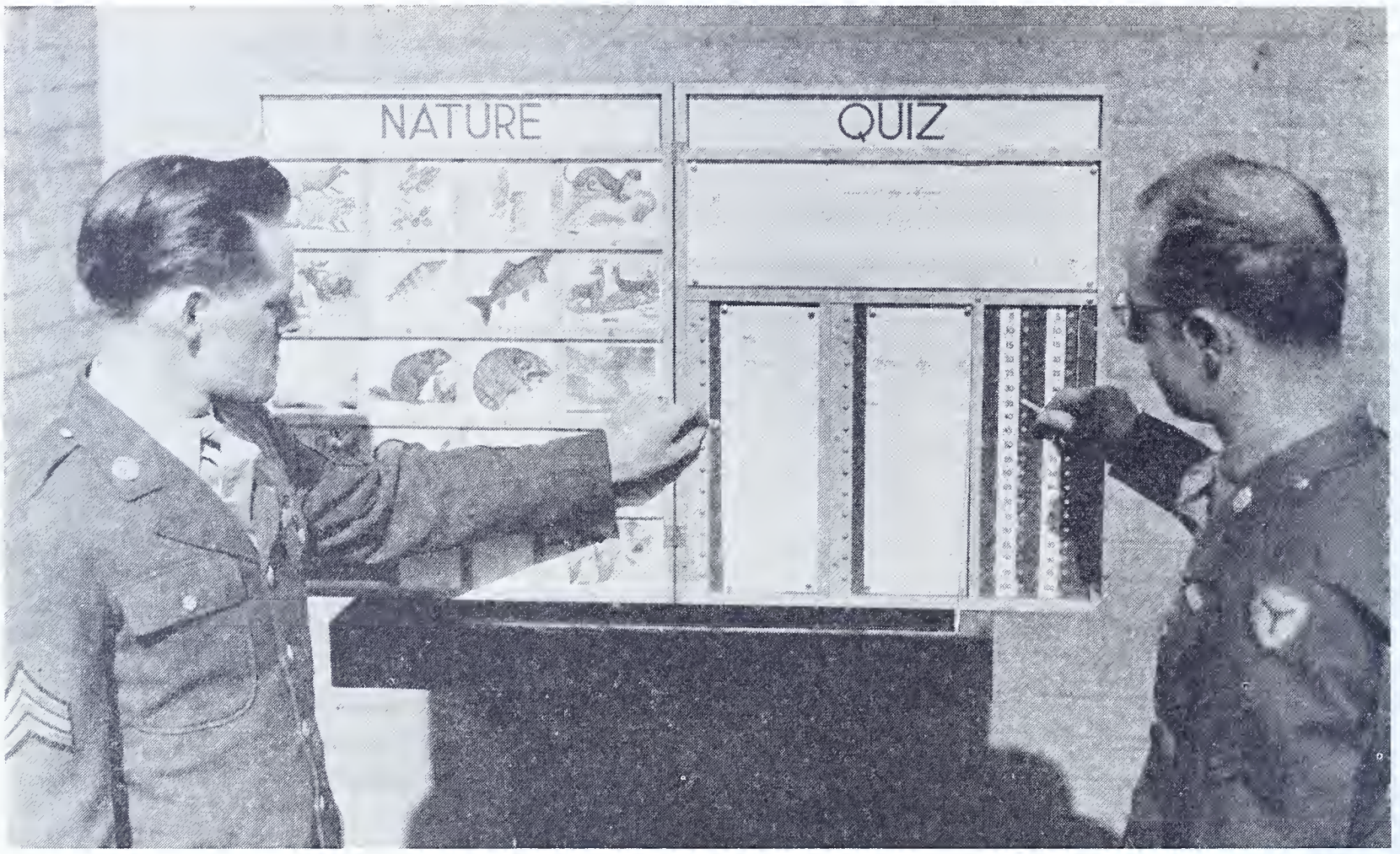


Photo by W. L. R. Drake
The Quiz Board demonstrated by, left, Sgt. Robert P. Brown and, right, Sgt. Glenn A. Rhen, of the Selective Service, Harrisburg, Pa.

Serving Those Who Serve

SOMETIME ago the Game Commission, along with other State Conservation Agencies, was asked to make available to the various USO clubs in Pennsylvania, upon request, its visual materials in the form of motion pictures, exhibits, literature, lecturers, etc.

This program was developed for the purpose of familiarizing the thousands of service men and women and defense workers from all over the United States in military and Naval Reserve Stations and war industries of the State with the natural resources of the Commonwealth through these mediums. This in a sense was the general scope of the program. However, it was aimed particularly at service men for the purpose of interesting them in their natural environment and to equip and enable them to adapt themselves thereto wherever they may be. For example, a special service officer in one of our large army camps stated that 1200 men contracted poison ivy in two weeks' time because they were not able to recognize the plant and thus avoid the infection.

As a supplement to the various materials which the State Conservation Departments are making available to USO Centers, the USO itself has designed a Quiz Board to place in all such centers throughout the Commonwealth in the near future that not only furnishes splendid entertainment, but is fundamentally educational because of its unlimited possibilities. This Quiz, which is in reality a competitive game, at the present time includes colored illustrations of fish and wildlife, poisonous plants, star and cloud formations, etc., and has been designed primarily to enable service men to acquire information on conservation practices, to find their direction through knowledge of nature, and to acquire an understanding of clouds and navigation. It has been shown to a number of Army and Navy officials and has been endorsed by all to whom it has been exhibited.

Fifty Quiz Boards have already been ordered by the Army and Navy Departments of the Y. M. C. A. as its first purchase. Other agencies of the USO also expect to place orders soon.

The New York Council of the American Camp Fire Girls, under the direction of Miss Dorothy Biddick, will prepare the necessary sets of pictures for all of the boards as a wartime project. Various camp agencies also offered to prepare the entire board as a summer project and to donate them to the clubs. One Camp Director offered to have 30 prepared this summer.

In Newport, R. I., the Boy Scout Executive is Chairman of a Committee to have the boards made up for that area. I give these references and examples because I recognize in this type of quiz not only a clever method of enlightening our service men and women, but of instructing our children in the public schools. We in the Game Commission. as well as other conservation agencies in the State, highly endorsed the general program of the USO and each agency has made available to the Department of Commerce a list of the visual materials. In the illustrations appearing in connection with this article the Quiz Board and its operation is clearly portrayed, along with simple specifications for constructing one of these interesting games. They can be made very cheaply and the Game Commission highly recommends it as a project worthy of Vocational Schools, Boy Scout Troops, Junior Sportsmen's Associations and other youth clubs. There is a place in every school for one or more of these exhibits.

As I said before, they have unlimited possibilities and it is the Game Commission's hope to furnish each of its seven Field Division Supervisors and its traveling lecturers with a number of them. One no doubt will comprise all of the game animals, game birds and furbearing animals; another song birds; and still another waterfowl and shorebirds.

The following information will be helpful to the individual or group interested in making these Quiz Boards. The pictures, which are simply pasted on card strips and inserted in slots in the board, can readily be interchanged and entire sets can be made for navigation, airplanes, ships, natural history, local historical sights, foreign uniforms of allied armed forces—any number of examples could be cited.

The illustrations and specifications set forth in this manuscript are identical with

By Leo A. Luttringer, Jr.

blueprints which can be secured from USO, but if the latter are preferred they can easily be obtained by communicating with Mr. Garrett G. Eppley, Program Specialist, Army and Navy Department, National Council, Y. M. C. A., 347 Madison Avenue, New York City, who initiated the Quiz Program. Mr. Eppley was formerly recreational promoter for the National Park Service, with headquarters in Omaha, Nebraska.

The first question that is likely to be asked by anyone interested in making a Quiz Board is where the illustrations can be acquired. They can be acquired from numerous sources, although in some cases a slight charge is made for them. For instance, if you were interested in constructing a board exactly like the one portrayed in this article you could acquire the illustrations from the following sources: 1, 4, 10, 11, 14 and 15—Pennsylvania Game Commission, Harrisburg, Pa.; 2 and 3—Pennsylvania Department of Agriculture, Harrisburg, Pa.; 5, 8, 13, 16, 17 and 20—American Wildlife Institute, Washington, D. C.; 6 and 7—Pennsylvania Fish Commission, Harrisburg, Pa.; 9 and 12, U. S. Weather Bureau, Washington, D. C.; 18 and 19—The Hayden Planetarium. These merely represent the agencies from which the pictures shown on the accompanying board were obtained. Many additional illustrations are available from the same and other sources. The Audubon Society in New York City has available colored pictures of song birds which could be cut out and pasted on the cardboard strips, and the larger department and book stores in most communities now offer for sale splendid little books on wild birds and animals, trees, plants, flowers, butterflies, insects, etc., which could also be used.

One especially interesting exhibit which should be given serious consideration was suggested by USO and will be used at such clubs extensively. It portrays the poison plants and insects and tells how to avoid them. Various State and Federal publications and illustrations on this subject are available.



POISON IVY

A special service officer in one of our large army camps stated 1200 men contracted ivy poison because they couldn't recognize the plant.

The USO is also planning in the near future to distribute material prepared by Dr. E. Laurence Palmer, Cornell University. Dr. Palmer is the author of countless school bulletins and leaflets on a diversity of subjects, but the composite publication he expects to prepare for use of USO clubs, and which I am taking the liberty of mentioning here because of its application to sportsmen, scouts, school children and others interested in the outdoors, are "Finding Your Direction"; "Little Indicators for Those Lost at Sea"; "Easy Methods of Trapping and Trailing"; "Getting a Drink When Pure Water Does Not Seem Available"; and "Keeping Warm." The Spring Cornell School leaflet, which soon will be forthcoming, will be on wild foods, another subject which should be of extreme interest to service men. Not long ago we published in GAME NEWS an article by Clare Norton on "Would You Starve?" which set forth the food value of many simple plants.

The entire USO program merits not only the support of the various conservation agencies of the Commonwealth, but every sportsmen's association, Civic Club, youth group, etc.

Under date of February 4, the Game Commission announced its cooperation in this program to its field staff and to sportsmen's groups, asking them to cooperate locally with service centers. Motion pictures, literature and lecturers are available and can be requested through the Division Offices, all of which are set forth on the mast head of this issue.

The Committee which is promoting the program in Pennsylvania consists of the following: John M. Durno, Chairman, Lebanon, Mrs. Palma A. Wright, Middletown and Joseph G. Featherstone, Harrisburg.

INSTRUCTIONS

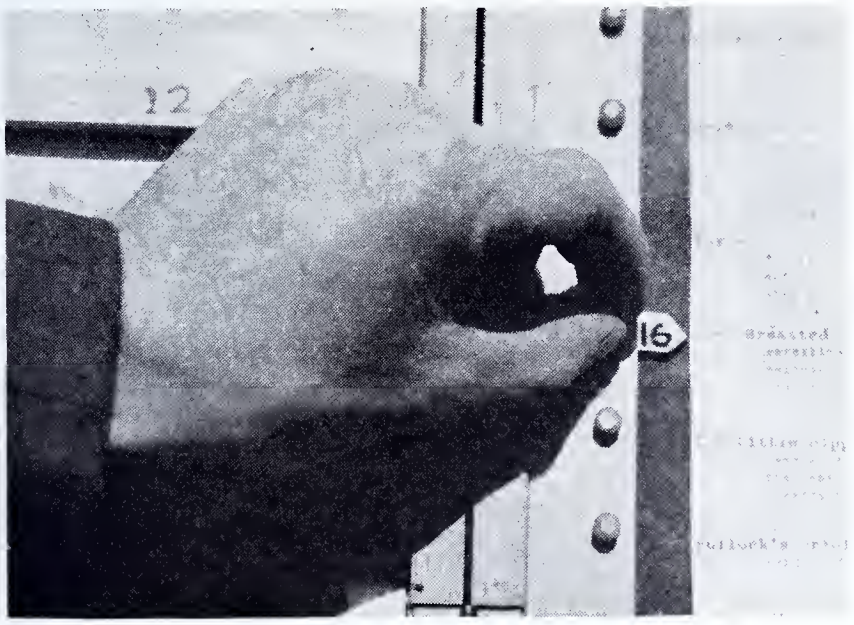
HOW MANY OF THESE PICTURES CAN YOU IDENTIFY?

1. Start with Picture 1. Look among the names listed below for the one which you think identifies Picture 1. Determine the correctness of your selection by looking at the number revealed by turning the peg at the left of the name. If the number is Number 1, you are correct.

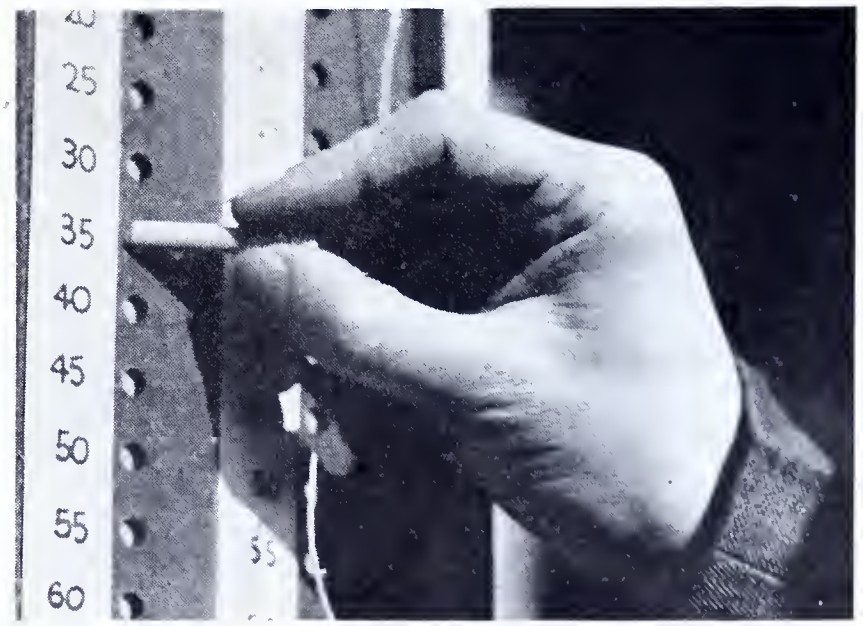
2. Use the same procedure for Numbers 2, 3 and 4 until you have tried to identify all 20 pictures.

3. Keep score with one of the pegs. Each time you are correct, move the peg one hole, thus scoring five points each time. If you identify all 20 pictures you will score 100 points.

4. Two people can play at one time. If two people play neither one should attempt to verify his selection until both persons have declared their selections verbally.



If you think you guessed right turn the peg opposite the bird or animal concerned and you will know whether you did, or not.



Photos W. L. R. Drake

Each correct answer gives you five points which are scored as shown above.

WITH THOSE IN THE SERVICE

"Just a line to keep you posted; wish I could tell you in person. Seeing old faces would put me 'in the pink.'

"Arrived here at Benning recently for the Officers Candidate School course. I hope I can add Lt. to Robert. You can bet I will go down trying.

"I wish you could see this set-up here. I thought I had seen quite a bit, but this has everything beat I have ever seen in teaching and instruction, visual aids and demonstrations. They don't miss a 'trick.' Every minute of every day fully planned.

"There is not much time for extra activities, but I will appreciate the GAME NEWS and try to find time to read it.

"Thanks for conveying my message to the boys thru 'The News.' I appreciate it.

"My best regards to you and all the boys. I wish I could find time to write each one a note."—Pvt. Robert Parlaman, 6th Co., 1st Bn., 3d S.T.R., Fort Benning, Georgia.

"I arrived at Camp Shanks, N. Y. yesterday. Don't know much about the camp yet. Sure have appreciated the copies of the GAME NEWS and sincerely hope that they will follow me through my Army career. Will write later. Sorry that I have been so tardy in corresponding."—S/Sgt. J. S. Kepner, Co. A, 796 MP Bn., Camp Shanks, Orangeburg, N. Y.

"Indeed a pleasure to hear from you. Received your letter a few days ago. Let's see—is that called 'mental telepathy,' or what—when you are thinking of someone at the same time they're thinking of you? Whatever the name, I believe more in it now than I did before.

"Have learned quite a bit about game conditions all over U. S. A. from the fellows I met. I gather all of it I can. How was the deer season?

"This war brought me quite a knowledge of geography and natural history first hand—seeing is believing, although some things are hard to believe, even so.

"Little I can say of activities, aside from being in the Infantry. Like it O. K. here and am in good health, but I appreciate Pennsylvania quite a bit more than I ever did before. Glad to hear from you any time."—Pvt. Martin L. Shaffer, Co. B, 33d Inf., A.P.O. 870, c/o Postmaster, New York, N. Y.

"I was going to write a letter before, but this Army life keeps one real busy on all days except Sundays. Our basic training is cut down to five weeks and everything is on the double.

"On Monday, Tuesday and Wednesday our Company was out to rifle range. We fired a total of 120 shots. The last 40 were for record. I made a score of 167 out of a possible 200. Seventy-four percent of our Company qualified. A score of 134 qualifies for marksman.

"A lot of our basic training has been first aid, marching, and rifle marksmanship. My training at PGC School certainly helped a lot. I have applied for Officer's Candidate School.

"Our Company will either be sent to Technical School or else shipped to another camp.

"It is not far enough South to be very sunny here, but as yet we haven't had any snow. Lots of sand and pine trees."—Pvt. Louis D. Mostoller, 1st Platoon, Co. E, 8th Q.M.T.R., Camp Lee, Virginia.



Sgt. Robert "Bob" McDowell "a-la-cyclist" somewhere in Africa.

"How is the rabbit trapping program progressing by this time in the hills of Pennsylvania? There are plenty of 'jacks' in around this section but we don't have time to get any hunting in. The only hunting that I have had this year was a day's gunning after quail near Scottsdale, Arizona; that was last November. We had quite a bit of good sport as those Gambel Quail are plenty fast.

"I have been hopping around quite a bit since I got in the Air Corps. I took Pilot Pre-Flight Training at Santa Ana, California and then went to Thunderbird Field (about 18 miles from Phoenix, Ariz.) for flying training. I am at an Advanced Navigation School here at Hondo, which is really 'deep in the heart of Texas,' about fifty miles from San Antonio.

"The military training at the P.G.C.T.S. has come in very handy, and I don't believe that I have run across as fine a bunch of fellows as we had there.

"We get 25 rather long practice navigation missions before we graduate; some of them to Nashville, Tenn., New Orleans, Denver, Colo., etc. This navigation is a lot of work but it very interesting. We have to know four kinds—Pilotage, Dead Reckoning, Radio and Celestial. The Celestial is supposed to be the hardest.

"I haven't had time to write to many of the class. Don't know their addresses. If you happen to run across any of them, give them my regards."—A/C Harold Korn-man, Group II, 43-8-4, A.A.F.N.S., Hondo, Texas.

"To date I have served 15 months in the Company of Engineers, 3 in basic training at Belvoir, 4 in a heavy pontoon battalion, 3 in Officers Candidate School (Belvoir), and almost 5 as a shavetail with light pontoon company.

"Heavy pontoon was my initial choice before graduation so I almost got what I asked for when I was assigned to the 511th which was activated August 10, 1942 at Camp Bowie.

"The 511th was a good outfit and I did hope to be among the 'Gang' when they started to bridge the Rhine. That seems to be out for the present at least. A recent circular placed 1st and 2d Lts. 35 years of age and above on limited service as far as command of field troops is concerned. Result, I was transferred to 8th Service Command and then to Camp Livingston. Left Bowie December 26, spent several days at Headquarters in Dallas and arrived here December 31. So far I haven't been given a definite assignment but it seems they plan on a Station Complement job. Not very exciting but will have to do until something better turns up. That's about enough of the Army for one sitting. With every best wish for 1943."—Lt. Gilbert L. Bowman, Cas. Det., No. 6, Camp Livingston, La.

"The January issue of your smudge sheet just arrived. Pardon the depreciating term, but it's one of affection rather than uncomplimentary. Like all of us in the service the first thing that I turned to was "With the Boys in the Service." I assure you that this portion is most thoroughly enjoyed by all of us, especially those of us that are on foreign service. Then I read it from cover to cover. And once again.

"If Bill Grimm thinks he has mosquitoes where he is just wait until I get the opportunity to enlighten him on the subject. It's just like the old days when Pat, Lonnie, and yours truly used to try to knock the living Hell out of old Corvus. Only these entomological dive bombers would shed No. 6 chilled shot. Takes at least five .45 slugs in vital spots before we can even overtake them in a jeep. Then one last volley from the hunting party and we have enough fresh meat for a good meal. And it's a damn sight better than MUTTON.

"Be sure and keep me posted when some of the boys join our 20% club. There's kind of a kindred spirit among men of that organization no matter where they may be posted. What tales we can tell when we all get together again would cause Paul Bunyan to blush in sheer defeat. Can you picture the tableau when we all get back from Alaska, Australia, India, China, Africa, England, Ireland, The Caribbean Area, and where not? Especially when we get back from Tokyo, Berlin and Rome.

"The next letter will be about the avian life in this neck of the woods. Any special thing that you'd like to know; any questions you want to ask? You ask 'em and me and the censor will answer 'em. Best of luck to you and the gang."—Sgt. Robert D. McDowell, ASN 33,011,498, Hq. Det. S.O.S., APO 625, c/o Postmaster, Miami, Florida.

"It has been well over a year since I left the Game Commission. I have been transferred a great deal but the PENNSYLVANIA GAME NEWS has always found its way to me. I want you to know that I sure appreciate receiving the news from the Commission, and especially last Fall when I couldn't be back in Potter County for deer and bear season. I could at least find out what sort of a season you had in Pennsylvania.

"The boys from other States who were hunters before they came into the service also enjoy the GAME NEWS. I get into a lot of arguments over the various articles but usually wind up the winner. We all hope the Fall of forty-three will find us back in our old hunting grounds; if not you can bet we will be doing all right where they have no closed season and no bag limit."—Sgt. William A. Miller, 2d Signal Radio Service Section, Camp Ritchie, Maryland.

"Well here I am, a place I never thought I would be—in the Army Air Corps. It sure is a great outfit. The first flight over Harrisburg I will throw a monkey wrench on your desk.

"I am now in School 'again' for approximately 30 days, then to another school for 3 months, then goodness knows where. I haven't taken up my permanent duties as yet so cannot tell you anything at this time.

"So far Army life is agreeing with me and I am getting enough exercise to help decrease the waist line.

"My Training School education has helped me a lot and will continue to help me as I go along. Without some of this training I would have had considerable trouble as I see others practically tying themselves in a knot on 'about face.' So far I haven't done that.

"Sometime you, Batchelor or Wilson can drop me a line and give me the news about the Game Commission, as I am always interested in happenings at home."—Pvt. A. C. Ganster, 356th Tech. Sch. Sqdn., Flight A, Jefferson Barracks, Missouri.

Seth Gordon, Jr., paid the office force a visit the other day while on furlough. Looking fit as a fiddle. Was one of six out of a class of several hundred to go through Artillery O.C.S. As a result he won assignment to Fort Mills as an instructor in Gunnery School.

"Thank you very much for your very nice card. It goes without saying that such was deeply appreciated, as well as were those from so many of the other 'boys' you have with you back there. I had so many of them that I was almost at a loss to know where to begin when I found time to answer. Such kind remembrances make one feel grand, especially when a 'little ways' from one's native land.

"There is little I can write of, concerning my activities here or of where I've been, except to say that I did enjoy some phases of my travels. I have been for some time now, assisting the Company clerk here, and find that what I learn will do me some good later on. He knows his job very well, and has taught me quite a few little wrinkles concerning office work that I n'er heard of before and will be valuable later on. I also digest with interest the Military legal procedures, finding them to be a little different, in some respects, than ours.

"Have been very much interested in the natural history of the various places I've seen. But I haven't seen any place yet that is as nice as Pennsylvania. Maybe that's just my opinion though.—Pvt. Martin L. Shaffer, Co. B, 33d Inf., A.P.O. 870 c/o Postmaster, New York, New York.

Congratulations are in order for Av/c Nicholas M. Ruha now attending the Army Air Force Bombardier School, Midland, Texas. He just advised Ye Editor that he was married Saturday evening, March 20, at the Post Chapel, to Miriam Carol Grimm of Pittsburgh. Captain Schoech, Post Chaplain, officiated. At the present time Mrs. Ruha is residing in Midland, Texas. She is the daughter of Mr. and Mrs. Carl R. Grimm, 5806 Morrowfield Ave., Pittsburgh. She is a graduate of Bethany College, Bethany, West Virginia, and received her Masters Degree from the University of Pittsburgh. For the past two years she has been Executive Director of the Jacksonville, Illinois, Girl Scout Council.

"I can thank the Game Commission for the romance since I first met my wife while I was Game Protector in Somerset County and she was Director of a Girl Scout Camp.

"If all continues to go as well as it has, I should receive my wings and commission about the 22d of April. Have completed the dropping of all my 'record' bombs with the Norden bombsight and did right well. There remains a week and a half of flying with the Sperry sight and two weeks of 'combat' bombing."—Av/c Nicholas M. Ruha, Squadron 2, Flight C, A.A.F.B.S., Midland, Texas.



Nicholas Ruha—BB, Bridegroom and Bombardier.

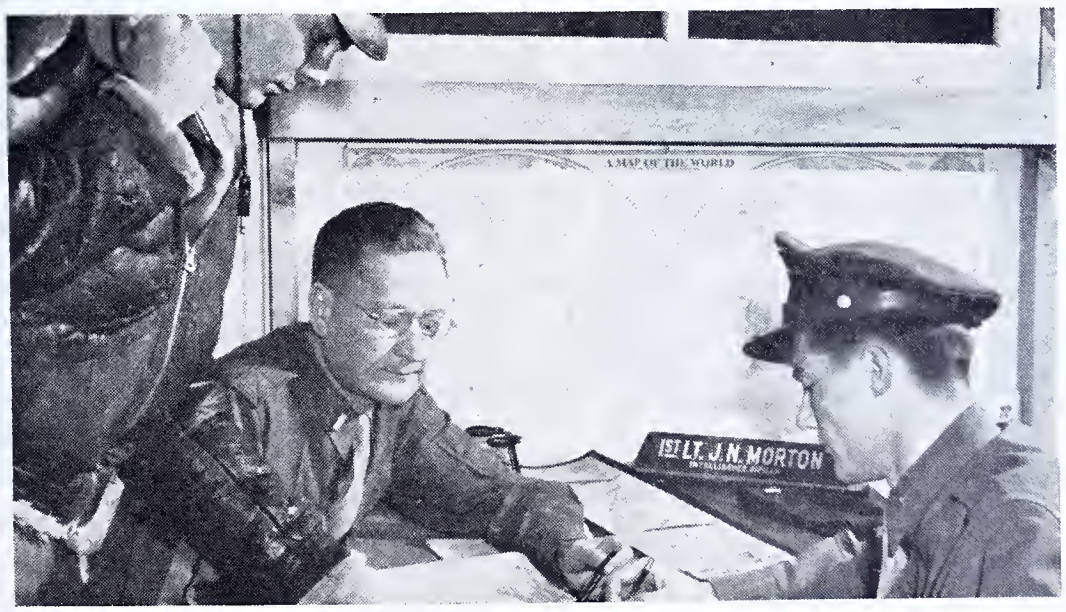
The title of our monthly feature "With The Boys In Service" is hereby changed as of this issue because of the enlistment of Miss Catherine Miles, 130 Culver Street, Kingston, who joined the WAACS on January 29, 1943. The new title will henceforth be "With Those In Service."

Miss Miles is the first young woman of the Commission to join the Service and she has our sincere congratulations and best wishes. She began her service with the Commission on January 7, 1941, as a stenographer-clerk in Division "B".

Robert F. McCachran, son of our Acting Assistant Director, is now in service in the Army Air Corps, Service of Supply, at Fort Logan, Colorado. "Mac" has another son in the Army Reserve Corps just "waitin' his turn."

"Letter writing seems to be a hard chore now that I'm here in Africa. I reckon I'm just a bit lazier tho, but outside of military action, which I can't write about because of censorship, nothing else seems to happen here worth writing about. I've certainly seen some wonderful mountainous country though, and I wish that you were able to visit some of the places that I've seen. I know you would like it all, even the desolate desert country.

"It made me feel very important and nice inside when I received Christmas and Thanksgiving cards from such men as you, Mr. Gordon, Mr. Sherman, Burdick and others that I knew "way back" in the days I worked at the School at that unimportant job as "2nd cook," and general "Jack of all Trades." I think of you all often. I hope I'll see you and maybe work again for you before 1943 expires."—Pvt. Geo. W. Levis, Btry. A, 213th C. A. (AA), APO 668, c/o Postmaster, New York, N. Y.



Lt. James N. Morton, center, Army Air Corps Intelligence.

Report on Eighth North American Game Conference

(Continued from page 7)

Game Cropping in War Time (Ammunition Supply).

"The 8th North American Wildlife Conference, after careful study by special committee, respectfully submits to the U. S. War Production Board, the following findings and recommendations for its consideration:

"Regular harvesting of annual wildlife crops is important to America's war effort for the following principal reasons:

"1. It represents a potential food supply in excess of a quarter billion pounds of essential meat, plus hides, feathers, fats and other products, which will be gathered without interference with war production.

"2. Unless properly harvested, the resulting increase will seriously interfere with the production of domestic food for the war effort.

"3. Harvesting this crop in the usual manner will contribute importantly to the physical and moral conditioning of America's manpower for the defense program.

"Since hunting provides war foods, protects war crops, and conditions war manpower, therefore we recommend and urge the War Production Board to release sufficient ammunition to provide for such harvest as would be consistent with the defense program."

The National Wildlife Federation, which held its meetings in Denver at the same time, adopted eight resolutions, as follows:

1. Wild Waterfowl. Recommending the establishment of public hunting grounds for duck hunting. (Heretofore the principal emphasis has been on refuges only.)

2. Pacific Salmon Run. Endorsing Senator McNary's Bill (Senate Bill No. 74) requiring the Fish & Wildlife Service to conduct investigations into the distribution, abundance, natural history and economic values of the salmon runs on the Pacific Coast as a basis for better management.

3. The Farmer and the Sportsmen. Recommending that the American Game Policy adopted in 1930 by the American Game Conference (predecessor to the North American Wildlife Conference) be re-emphasized and republicized because through the intervening years it has been found to be sound in principle and beneficial in application.



Photo U. S. Fish and Wildlife Service
Mountain Sheep, Alaska.

4. Use of Fish for Food. Recommending the utilization of many varieties of fish for human consumption which heretofore were not considered edible.

5. Over-All Control Committee. Recommending the establishment of an overall Federal Control Committee to coordinate effectively those agencies of the Federal Government engaged in activities having to do with soil, water and wildlife conservation to the end that careful consideration shall be given to wildlife values in connection with future flood control, hydro-electric and other public projects, including proper recommendation of the pollution problem in inland waters.

6. Hunting and Fishing Information. Recommending that each agency having the task of administering wildlife resources provide all purchasers of licenses to take fish and game with reliable knowledge concerning the wise use of fish and game taken.

7. Wildlife Education. Recommending a committee be appointed to make a study and survey and report back to the next meeting its conclusions with reference to Conservation Educational Programs.

8. Congressional Committees. Commending both the U. S. Senate and the House special wildlife committees upon the splendid work they have been doing and urging that such committees be continued in order that the benefits that have been derived from their creation may be increased and extended.

No definite decision was reached relative to the time or place for the 9th North American Wildlife Conference, which in reality will be the Thirtieth consecutive year that this conference has been held either under the auspices of the American Game Association or its successor, the American Wildlife Institute. However, it is reasonably certain that the ninth conference will be held somewhere in the eastern part of the country. The time and place were left to a special committee of the Institute to decide at a later date.

Complete transactions, with all the papers and discussions, will be printed soon and copies may be obtained from the American Wildlife Institute, Investment Building, Washington, D. C., at $1.00 per copy.

Reactions of Trapped Animals

(Continued from page 18)



Photo submitted by Game Protector Elmer D. Simpson.
John Powell, Deputy Game Protector of Cambridge Springs, and his catch during the first part of November, 1942. It includes eleven fox, two weasels, one skunk, one 'coon, two muskrats and several opossums not shown in the picture. John started out to learn how to trap fox during a two week's vacation. This picture is proof that his efforts were not in vain. He had a very enjoyable vacation and was well paid for his pleasure.

from the minute the animal gets caught until the arrival of the trapper—tells the story as to how the animal fared. In our own commonwealth, the law requires that traps must be visited *at least once in every thirty-six hours,* except when prevented by sickness or bad weather. The general practice of regular trappers is to make their rounds over a trapline within twenty-four hours—once a day. Surely, that is in accordance with the dictations of a sane mind and a clear conscience, and the amount of suffering, if it could be logically termed as such, in so short a time, certainly cannot be of a too preponderant a nature.

The common steel trap is the most generally used article in the trappers' game. There are, however, a variety of types of traps on the market nowadays, quite a number of which are practical and more humane for use from the standpoint of a trapper, but not exact to requirement, since there are a number of factors to take into account in the computation of a trapline.

When speaking of alleged cruelties, we must also consider that human throughtless-

B-o-o-m-e-r-a-n-g!

(Continued from page 19)

kangaroo, are quite plentiful, sometimes to such an extent as to be a nuisance. Many hunters earn their living as wallaby or 'roo hunters. It takes a solid hit to down them and it has a lot of the thrills of deer hunting, but you don't have as much to show for your effort after you do get one.

There are plenty of wild ducks but, since I don't know much about duck hunting, I don't know if the ducks are the same as ours at home. The size is about the same. that much I can say, since the ones we shot looked, after they were cleaned, about the size of a slightly emaciated sparrow.

That about covers the game animals. Remember, I am not an authority on the situation and I just "called 'em as I seed 'em." There may be others, in fact there are a few I just thought of. There are quite a few 'possum and 'coon, same variety as ours, and also dingo dogs which are much like a wolf or coyote. Other than that I can't think of more unless you want to count the mosquitoes and, believe me, they are plenty game. Snakes are very plentiful and we have come across them almost every place imaginable even in our beds and shoes. That none of us were bitten so far is almost a miracle. Almost all of them are deadly poisonous and the only safe thing to do is treat every bite as a poisonous one.

Since I am not a fisherman I did not touch on that subject although it is excellent. Zane Grey's favorite spots were in the waters around Australia. I've seen fellows go fishing with just a line wrapped around a bottle and pull out salmon weighing 25 lbs. The only fish I came in close contact with were sharks and they broke up many a swim for me. We fired many shots at them at a range of only 10 feet, but never killed any.



Don't worry Comrade Light, the boys are keeping the home fires burning—feeding game, trapping predators, planting food, every spare moment they get.

Tough babies, and they play for keeps.

That is the story of things over here and I hope I didn't overdo it. I certainly didn't mean to write this much, but hunting is one of my favorite subjects. I have come in contact with hunters from all over the U. S. and have been offered many invitations I hope I can some day fill. I certainly am glad you boys are keeping up the good work back home so that the home grounds aren't neglected. With all the game that would normally have been shot by the many fellows now in service, the situation should look pretty good. I am not counting much on next season, but I hope that by the next I can get a few cracks at those big bucks which were only spike buck when I left.

Again, I guess that is about the whole story. We are right in the middle of preparations to shove off and see still more of this side of the earth. It will probably be entirely different kind of country with different animals. If it is interesting enough to write about I will drop you another letter in a few months. I doubt if it will attain this size for I think this is a record as far as my letter-writing is concerned.

Again I want to thank you for the pencil. I can assure you it will be most useful. I hope enough of you are left to carry on the good work for the duration. Believe me, hunting is one thing I look forward to and I know the rest of the boys feel the same way. I must close now but let me hear of your work and results from time to time.

Best of luck to the Club and members."—T/5 Ralph Light, 33112770, 694th Signal Co., APO 922, U. S. Army, c/o Postmaster, San Francisco, California.

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ness has a direct bearing on torture sustained by our creatures of the wild. Forest and field fires, for example, inflict a severe punishment upon most every living creature along the way. Fire smoke that reaches down into the crevices and cavities of the earth can easily bring on suffering and *lingering death* to countless animals.

Sometime ago I had asked the American Humane Association to give me their views on cruelties of trapping from their standpoint. Mr. W. E. Sanderson of the Association replied, in the main part, as follows:

"Humane organizations operate in part under a system of receiving complaints which are investigated. As you may understand The American Humane Association is a federation of societies and individuals for the prevention of cruelty, especially cruelty to children and animals. As might be expected whenever one sees an act of cruelty they report it to a humane society, or the national organization. As a result of this practice local humane societies, as well as the national organization, get much in the way of complaints.

"We have had a large number of complaints, not only on the cruelties involved in trapping, but also hunting and fishing. This is a point which some do not appreciate, nevertheless it is important. It is the results of an act of alleged cruelty. Oftentimes there is a question as to whether or not the animal concerned really suffered.

"Among other things we have stimulated an interest in the development and use of fish hooks that will reduce to a minimum injuries caused by taking fish by hook and line. We have given much publicity to Bob Nichols' prayer which is—'Let me shoot clean, kill clean; and if I can't kill clean, please Lord let me miss clean'.

"As Director of the Wildlife Department I take the attitude that we are not so much concerned at present as to whether a man can fish, hunt or not as we are concerned about how he fishes and how he hunts."

WHICH ARE YOU?

Are you an active member, the kind that would be missed,
Or are you just contented that your name is on the list?
Do you attend the meetings, and mingle with the flock,
Do you take an active part to help the work along,
Or are you just satisfied to be the kind that "just belong"?
Do you ever go to visit a member that is sick?
Or leave the work to just a few and talk about the clique?
There's quite a program scheduled that I'm sure you've heard about,
And we'll appreciate if you, too, will come and help us out.
So come to the meetings often and help with hand and heart,
Don't just be a member, but take an active part,
Think this over, member, you know right from wrong,
Are you an active member, or do you just belong?

—*Exchange.*

The Log of Rattlesnake Shack

(Continued from page 9)

apple tree, by tearing apart the ugly nests in order to get at the little "cats."

There is hardly space to enumerate the bird visitors or residents during May. A real ornithologist would probably be able to locate considerably over a hundred species with his experienced eye. However, we append here a list of the more common warblers, many of which nest with us—blackburnian, black-throated-blue, black-throated green, black and white, Canada, chestnut-sided, hooded, magnolia, Maryland yellow-throat, myrtle, oven bird, redstart, and the water-thrush. We are especially interested in the hooded warblers which haunt the rhododendrons that decorate the creek banks; and the water-thrush who hides her nest along the spring brook.

During May, we again find times when black-flies get mean, and after they have passed, the punkies or "no-see-ums" torment us. Insignificant individually punkies are mighty collectively, and we are compelled to take action against these tiny flies. Therefore, when hatches of this menace to our comfort appear, we build one or several smudge fires to impregnate the air around camp with smoke. This so embarasses the tiny devils, they either fold up in despair or repair to more comfortable quarters. Of course our camp buildings are well screened against this type of pest.

It is amusing, if you happen to be more or less immune to insect bites, to watch a group of picnickers trying to enjoy their "feed" while the "no-see-ums" or punkies are eating them. Such swatting, scratching, and cussing! The attacks may leave marks or swellings on the skins of some tender victims. Punkies or "no-see-ums" represent



Yellow Lady Slipper.



Barred Owl.

the smallest species of fly that bites human beings, and when I say bite, I mean *bite.* In spite of the "big bite" they seem to take they are so small that an individual fly could easily walk through the eye of a needle, if it had the inclination. These flies breed in damp situations and in our region appear late in May and continue sporadically through the next month.

Many insects are in evidence during May and we run our trap lines and bait pails. In this way we have acquired a good record of the insect species that inhabit Clarks Valley. Of course this means little to the average person, but we are consumed with curiosity. We must pry into the private lives and affairs of even insects.

Did you ever wonder concerning the inhabitants of a down tree or a dead twig. We must mention that rarity the violet winged *Physocnemum.* This twig boring long-horned beetle breeds in the small twigs of dying red oak. It is insignificant in size if you call an elephant gigantic or a mouse large. Not over one-half inch long this scarce beetle has a dark bluish-violet coat with ivory trimmings. Records of this insect are scarce and so are specimens of the adult described. Clarks Valley specimens that were captured around camp in late May and in the month after, have been added to many large Museum collections, including those of other countries. Of no great economic importance, it remains a desirable acquisition on account of its rarity.

Apple and cherry blossoms perfume the air when we enter the month of May. Wild crab apples open up their fragrant pink flowers nearer the middle of the month and we consider these blooms carry the most exquisitely delicate odors of all the wild or cultivated blossoms we have met with in our woodland rambles. Dogwood blooms now stand out in masses throughout the forest and azalea flowers appear from the 10th to the 19th. Tulip-poplar, black locust, and laurel bring up the very rear of Maytime woodland tree bouquets.

Our lady-slipper schedules are as follows: yellow, pink and white lady-slippers bloom from May 6th to 19th, while the showy lady-slippers wait until the very last few days of May to start flowering.

In the woods the dainty fringed polygala are striking examples of tiny attractive flowers of pink to ornament the ground floor, May apple plants begin to show their white waxy flowers about the 9th or 15th, and along the old roadside the lupines shoot their spikes of purple and blue from the 9th to 22d.

Iris verna, a wild dwarf species brought from other sources, holds its own. The flowers appear from the 2d to the 17th, their purplish blue petals with bright orange ornamentation stand out along with the light-blue and white *Iris cristata* in our rock garden. All varieties of the garden iris unfurl their flags from the 9th to the 30th; and at this time the first peonies emerge for Decoration Day.

Among the hazards of May are the late frosts. Sometimes Jack Frost blows his searing breath over the lowlands of our valley. We arrive to find a frost-line in the bottoms and up the hill as far as camp. New foliage of walnut, locust, tulip poplar and chestnut is blackened and shriveled. Grapevine leaves and fern fronds droop in disconsolation, and the resultant failure of oaks and other trees to produce seeds and fruit crops reduces the natural food of game and wildlife.



Photo by W. L. R. Drake

Pink Lady Slipper.

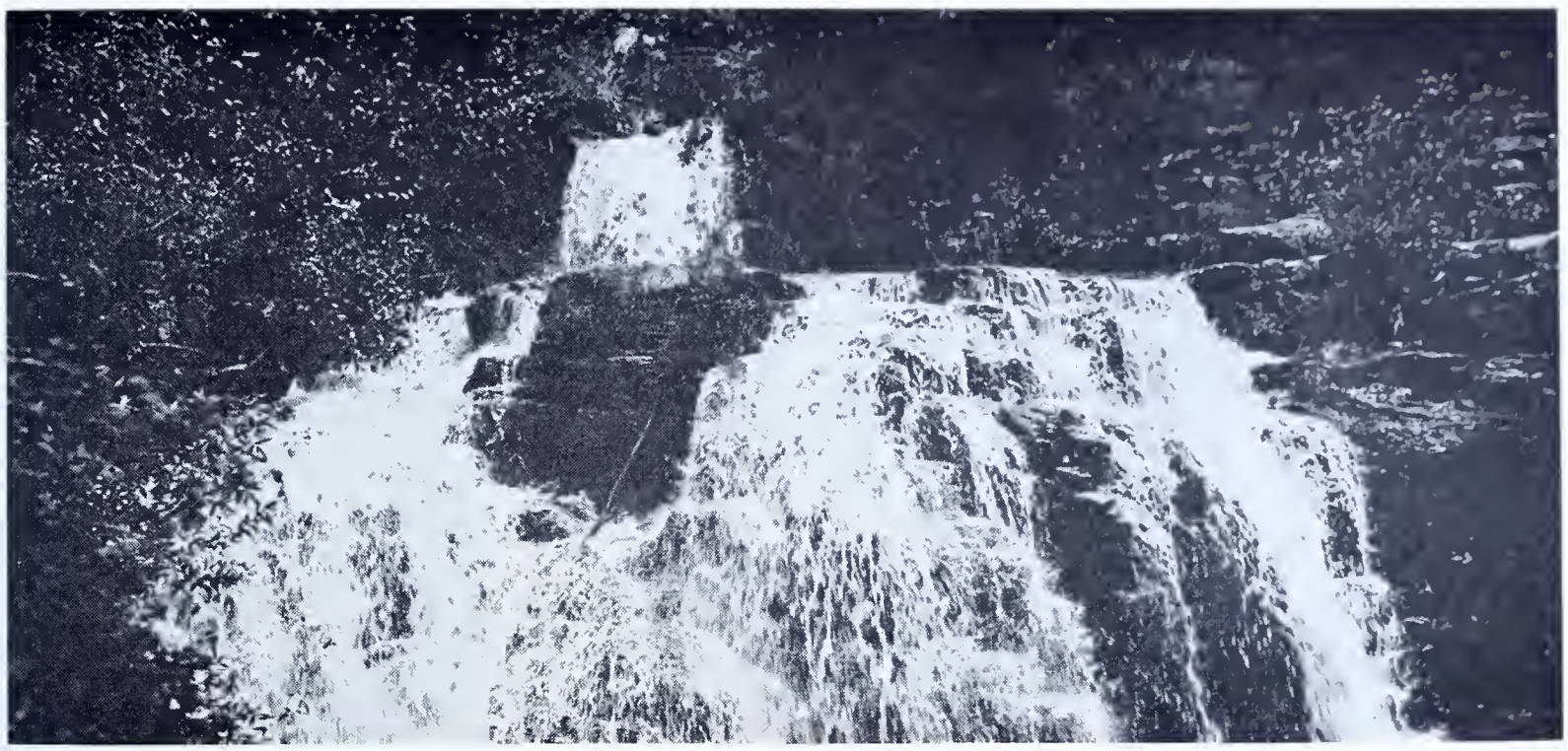


Photo by Seth Gordon

Falls on Hickory Run, Saylorsville, Pennsylvania.

Hats Off to the N. R. A.

(Continued from page 11)

The exhaustion of stocks of metallic ammunition involved the Yellowstone National Park Officers in a critical situation when a reduction in the elk herd was required by lack of forage, but N.R.A., responding to an appeal from the Acting Superintendent at Yellowstone, was able to locate enough ammunition of the desired types to supply Park Rangers with their essential requirements for reduction of the elk herd and for control of predators.

Small Arms Firing Schools

From the time of the German invasion of Czecho-Slovakia the Association urged its clubs to establish civilian small arms firing schools open to all citizens of military age. The number of such schools increased slowly. Lack of experience in mass instruction and the natural desire to shoot rather than give time to teaching combined to keep the number of schools low in proportion to the number of ranges available. As of April, 1942, 952 clubs had undertaken instruction programs of some kind since the outbreak of the war in Europe. These clubs had *completed* instruction of 61,781 citizens with the small bore rifle, 16,935 with the Service rifle, and 18,075 with the pistol or revolver. In addition, 25,218 students were then receiving .22 caliber instruction, 8,329 were under instruction with the service rifle, and 10,811 were being taught to handle pistols or revolvers. Without fuss or feathers, 140,000 citizens had by the Spring of this year been added to the number in this country who could handle a gun with reasonable skill and safety.

A complete program for the examination and approval of N.R.A. Official Instructors was worked out during the year and put into effect in September. Definite requirements as to range facilities, experienced personnel and standard instruction methods for officially approved small arms firing schools were announced at the same time. This course was taken for two reasons:

(a) The war excitement had given many commercial shooting gallery proprietors the idea of attracting customers by advertising "rifle marksmanship schools" which, if they taught anything, taught more bad habits than good. It was obviously advisable to provide some easily recognized standard by which the general public might know that a "small arms firing school" was worth attending.

(b) Many of the schools established by our clubs were not properly "staged" and were consequently uninteresting so that students did not complete the courses.

There was a prevalent failure properly to tie in the small bore rifle with the training of recruits for war.

The program as finally put into effect with standard instruction courses, definite standards to be met by range failities and instructor personnel, and official N.R.A. certificate of approval for the school, has gone far toward putting the situation on a better basis. Better newspaper support and more public interest have resulted.

Club Affiliations

I was particularly interested in Mr. Lister's analysis of club affiliations for the reason that I am convinced many sportsmen's organizations and other groups are overlooking a good bet by not availing themselves of the opportunity of establishing rifle schools through the N.R.A. Under such cooperative agreements it is possible to get the necessary .22 caliber ammunition and even firearms. I urge all Pennsylvania clubs who might be interested to contact Mr. Lister if they are not already familiar with this program. The following excerpt from his report, especially the first paragraph wherein he refers to the "spark plugs" of an association, should also be of interest because it applies to many of our own sportsmen's groups wherein one or two individuals always share the responsibility.

"There has been a natural decline in club activities caused by the fact that most clubs depend on one or two 'spark plugs' to keep them going. Many of these men entered the armed services during the year and many more left their old locations to take wartime jobs in other cities. Their clubs have not been able to carry on without their leadership and in the face of further losses of club membership also due to the war. It has been interesting to see how often these 'spark plugs' begin to talk shooting in their new location as soon as they have settled into the new occupation. If rifles become available during 1943, a considerable number of new clubs in war plants will probably materialize as a result of the activities of these old friends of ours.

"The Association has practically eliminated its competitive program to concentrate on small arms firing schools, and is looking forward to an active all-out effort in behalf of the war for 1943."

In his closing remarks Mr. Lister explained the sentiments of the Association very simply as follows: "We may close the books on 1942 with a feeling of honest pride and look forward to 1943 with quiet confidence. We are helping to win this war. We have the strength and resiliency to see it through and when the war ends we will occupy the strongest position we have ever held from which to drive forward into the future."

★ ★ ★ CURRENT TOPICS ★ ★ ★

WALCOTT RECEIVES CONSERVATION AWARD



F. C. Walcott

The Hon. Frederic Walcott of Connecticut, President of the American Wildlife Institute, has received the 1942 *Field & Stream* award for the Outstanding Conservation Accomplishment of the year. The award was made by Eltinge F. Warner, Publisher, at the North American Wildlife Conference held in Denver on February 16 under the auspices of the American Wildlife Institute. Previous recipients of the award were: For 1941—Dr. Ira N. Gabrielson, Chief of the U. S. Wildlife Service; and for 1940—E. Herrick Low, former president of Ducks Unlimited.

In making his presentation address, Mr. Warner reviewed Mr. Walcott's remarkable career as a conservationist. Active in fish and game affairs since boyhood, Mr. Walcott has been high in the councils of the old American Game Association; Chairman of the United States Senate Committee on Wildlife Resources; had much to do with the enactment of the Duck Stamp Bill; was chiefly responsible for the Coordination Act, which stopped Federal agencies from acts that might be detrimental to our fish and game without first consulting the Biological Survey; was largely responsible for the creation of the American Wildlife Institute, which took over the work of the American Game Association, and has for years been its president.

Hunters and fishermen harvested ten million pounds of meat and fish in Indiana during 1942, the Division of Game announces.

Six Farmer-Sportsmen Cooperative Game Management Areas have been established in Tennessee by the Division of Game and Fish during the past two years. These areas include 67,277 acres owned by 492 farmers.

DOMESTIC RABBITS FOR FOOD

The Fish and Wildlife Service points out that with meat rationing soon to begin, domestic rabbits can help to provide the answer for the city dweller who wishes to grow a few meals at home. For the time, labor and expense involved, rabbits pay a handsome dividend in good eating, since they require little space and just ordinary care, it maintains. The U. S. Rabbit Experiment Station at Fontana, California, operated by the Fish and Wildlife Service of the Department of the Interior, is developing and recommending simple and inexpensive equipment for the rabbitry to be built with available materials, often times scrap, thereby eliminating the use of strategic materials. George S. Templeton, director of the Station, says that "three or four does and a buck of the medium-weight or heavier breeds will furnish the average family with all the rabbit meat that it will use."

A new pamphlet recently issued by the Service, "Domestic Rabbits in the Food for Freedom Program," is primarily for use by persons desiring to establish small backyard rabbitries to supplement the family meat supply. This pamphlet, Leaflet No. 218, gives complete instructions for selecting breeding stock and building hutches. It is available free of charge from either the U. S. Rabbit Experiment Station, Fontana, California, or the Fish and Wildlife Service, Merchandise Mart, Chicago.

Rabbits are now being raised by the millions in every State and in every climate from California to Maine. Wherever poultry raising is permitted, rabbits may be kept. In fact, many cities and towns throughout the West are removing restrictions on backyard raising of chickens and rabbits in order to give impetus to meat production at home, wherever practicable. Meat produced at home also has the advantage of alleviating transportation difficulties.

ERROR

One reader kindly called our attention last month to a mistake in Volume number, which is being corrected in this issue. The April number was listed as Volume XIII, No. 13, whereas it should have been Volume XIV, No. 1. Readers who are interested in keeping their volumes in proper sequence should make this correction.

Farmer-sportsmen, as well as landowners who never hunt, cooperating in the Commission's farm-game program will no doubt be very much interested in learning of the publication of a new bulletin entitled "Strip Cropping for War Production," just released by the U. S. Department of Agriculture. It is known as Farmers' Bulletin No. 1919 and can be secured from the Superintendent of Documents, Washington, D. C., for 10c a copy.

The publication, which is size 6 x 9 and contains 46 pages, over 40 excellent illustrations, covers such subjects as the kinds and use of strip cropping, the methods of laying out various types of cropping projects, etc.

IN MEMORIAM



Joseph M. Foreman

The untimely death of Joseph M. Foreman, Carlisle, Game Protector, District "D"-8, was a severe shock to the Commission and his many sportsmen friends. Loved and respected by all who knew him, Joe was "at home" in every part of his territory at any time. An outstanding athlete and a keen outdoorsman, he enjoyed hunting and fishing as few devotees do. He also enjoyed his work with the Commission, with which he served for a little over seven years, beginning Jan. 31, 1936, and ending, with his untimely passing, from a heart attack, on March 20. He leaves a wife and two small children who have our deepest sympathy.

"WHERE BELLS DON'T RING"

It seems to me I'd like to go
Where bells don't ring nor whistles blow,
Nor clocks don't strike, nor gongs don't sound
And I'd have stillness all around.
Not real stillness, but just the trees'
Low whisperings, or the hum of bees.
Or brooks faint babbling over stones
In strangely, softly tangled tones.
Or maybe a cricket or katydid,
Or the songs of birds in the hedges hid
Or just some sweet sound as these
To fill a tired heart with ease.
If it weren't for sight and sound and smell
I'd like the city pretty well,
But when it comes to getting rest
I like the wild woods lots the best.
Sometimes it seems to me I must
Just quit the city's din and dust,
And get out where the sky is blue—
And, say, how does this seem to you?

—Author Unknown.

STARLINGS MAY CARRY HOOF-AND-MOUTH DISEASE

STARLINGS are under suspicion as possible carriers of hoof-and-mouth disease, serious Old-World malady of cattle. Circumstances and statistics in support of this theory are offered in *Nature,* by Dr. W. S. Bullough of the University of Leeds.

Although British agricultural authorities, like the federal and state authorities in this county, have succeeded in stamping out each outbreak of hoof-and-mouth disease soon after its discovery, these outbreaks have been of rather frequent occurrence and undiscoverable origin.

It is now suggested that the virus is carried to England from the Continent, where the malady is always rife, by migrating starlings of the Continental strain that migrate in winter from Scandinavian and other northwestern European lands to the British Isles. And the feeding habits of starlings bring them into close contact with cattle.

While the case against starlings has not been clinched, outbreaks correlate with most active migration.—*Science News Letter,* October 3, 1942.

DID YOU KNOW THAT

By W. W. Britton

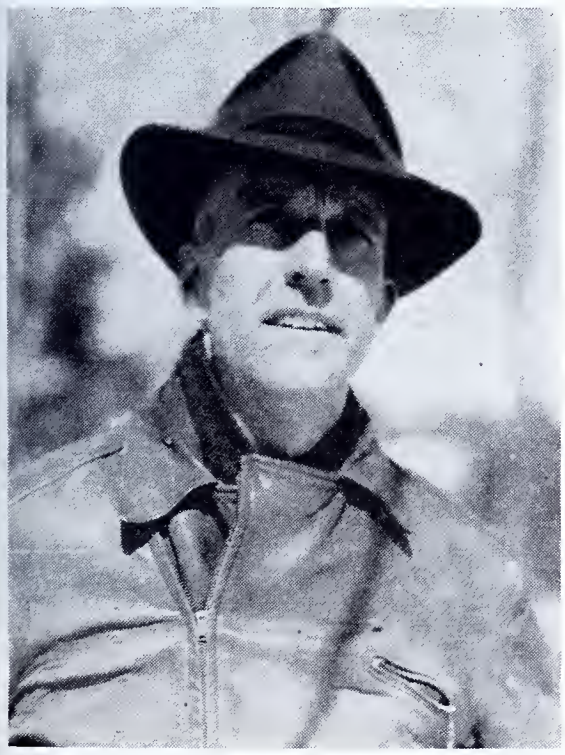
1. The dancing ground of Prairie Chickens is called a LEK.

2. Ruffed Grouse go through a crazy flight each fall between September 1st and October 31st. Apparently it is the breaking up of family groups and dispersal of birds over the territory.

3. Wood Ducks, Mallards and probably others can and do eat and digest whole hickory nuts.

4. When a Bald Eagle loses its mate it will never remate.

5. Dr. P. F. English, State College, Pennsylvania, says, "One pair of American Long Eared Owls on a farm are as valuable to a farmer as a good team of horses."



Thomas F. Bell

SALVAGE OF USED CARTRIDGES AND SHELLS

Sportmen's clubs and others are asking where to dispose of used cartridges and shells collected to salvage brass needed to further the war effort. The National Salvage Program has informed us that in most communities the local Metal Salvage Committees will likely accept this material. If no such local Metal Salvage Committee is functioning in any city, the persons and organizations having the empty shells should communicate with their State Executive Secretary of the Salvage Division of the War Production Board who will inform them of the nearest place to send their used cartridges and shells.

ATTENTION READERS!

Do you have a mouse (or mice) in the house? Want to get rid of him? Just write the U. S. Fish & Wildlife Service, Merchandise Mart, Chicago, Illinois, for a copy of "Directions for Destroying House Mice," Wildlife Leaflet No. 234.

LATIMER-BELL PROMOTED

The Game Commission announced on Mar. 6 the promotion of two of its District Game Protectors—Robert E. Latimer, Division "C", stationed at Muncy Valley, and Thomas F. Bell, Division "D", stationed at Huntingdon, to the position of Game Protector, Supervisory Grade.

Both men, along with three other supervisory trainees, were eligible to compete in an examination held in Harrisburg on January 21, for the selection of a Field Division Supervisor to fill the vacancy created by the untimely death of John B. Ross, former Supervisor of Division "C". All of the candidates had taken courses at the Commission's training school in Jefferson County and also had completed prescribed special training courses for investigative and supervisory positions.

Protector Latimer, who is at present serving as Lieutenant in the Army, made the highest rating in the competitive examination. Due to his military service, he was unable to accept appointment as Supervisor at this time. However, the Commission recommended his promotion, pending approval from the Governor, which was granted, to become effective upon his release from military duty. Mr. Latimer entered the service of the Game Commission July 10, 1925, filling creditably the positions of Traveling Game Protector, Assistant Game Protector and District Game Protector.

Protector Bell was a close second in the examination, and the Commission agreed to promote him to the supervisory grade in charge of Division "C", relieving Wilbur M. Cramer, Superintendent of the Commission's Training School, who has been handling the work in that Division since the vacancy occurred.

Mr. Bell joined the organization on December 1, 1934, in the capacity of Traveling Game Protector, and then as District Game Protector, a total of nine years service, with an excellent performance record. He took up his new duties as Field Division Supervisor immediately, with headquarters at 844 Arch Street, Williamsport, Pa.

FIRST OPEN SPRING SEASON ON PHEASANTS

The Iowa State Conservation Commission early in March announced an eight-day open season on ringneck pheasants in 11 north central Iowa counties, from March 15 to March 22, inclusive. Daily bag limit has been set at five, possession limit at 10. Two hens may be taken in the daily bag, and four hens may be in possession. Shooting hours will be from 9:00 A.M. until 5:00 P.M.

In spite of the fact that Iowans enjoyed their longest pheasant season, 21 days, last year and in spite of the fact that the season was opened in 59 counties, the difficulties of transportation. the shell shortage, and the fact that many hunters were in the armed services prevented taking the surplus birds in many localities. After careful investigation, the State Conservation Commission has found that the counties open to Spring shooting do have a large surplus of pheasants. During the investigation the Commission has recognized the fact that the farmer raises and feeds the game and that when game populations jeopardize his welfare, he is entitled to protection from such game.

The first Spring pheasant season in the State's history is designed only to reduce pheasant population in territories where heavy concentrations of birds are causing serious loss of crops. It is not designed as a sporting measure.

An unusual abundance of pheasants in South Dakota, coupled with the meat shortage, prompted officials to give its sportsmen an extra thirty-day pheasant season—from January 30 to February 28 inclusive, the first such late winter season in the history of the conservation movement. Hunting licenses for 1942 were honored. The limit was seven birds a day. In most counties hunters were permitted to take two hens in this total.

Latimer will be held in reserve until mustered out of the Army, at which time he will be eligible for assignment to a position as Supervisor, or Special investigative work.



Lt. Robert E. Latimer



Members of the Palmyra Sportsmen's Association assisting local farmers to harvest crops last Fall.

NOTES FROM THE FIELD

"While patrolling Bear Creek in Fairview Township I noticed a beaver in a pile of driftwood. I cut a pole and fished it out and found that it had starved to death because its cutting teeth were in very bad condition. It weighed about 10 lbs., but its fur was in good condition.

"There were not too many beaver trappers in this district and only a few finished with the season. Some only trapped a few days. All traps were taken up Sunday morning on the last day in this District."—Game Protector Levi Whippo, District 13, Division "F".

"On the morning of February 7th in the vicinity of Saxton I came upon the tracks of a pair of red foxes. I followed these tracks for about 2½ miles, and noted that they killed 2 rabbits and had eaten the hind parts and backs of each; also two grouse one of which only had been devoured, the other hardly touched."—Game Protector Walter M. Thomas, Division "D".

The Marysville District Sportsmen's Associations, according to the secretary, J. Quentin Reed, is planning a program of conservation education in local schools, and expects to distribute widely the Commission's series of six educational pamphlets in the near future. The club started with 36 members in 1940, jumped to 98 in 1941, and a high of 228 in 1942. It owns a fine club house and has a monthly program of movies.

The American eagle has adapted itself to the treeless Aleutians by building its nest on the ground.

Michigan's small herd of Elk, ranging the forested hills of the Pigeon River state forest, is holding its own but apparently has increased very slowly, if at all, in the last 10 years in the opinion of state game men who now estimate the herd to number between 300 and 400 animals.

Last year members of the Palmyra Sportsmen's Association helped local landowners to harvest their hay, wheat, oats and barley crops and fill their silos. Eight or ten of them working three hours each evening put in a total of 1,400 hours. Such cooperation not only aided the war effort but resulted in the subsequent opening of 800 acres to public shooting that were heretofore closed. Each year the association buys ten crates of rabbits and raises approximately 200 pheasants and 60 bobwhite quail. Twenty-seven members are now in the armed forces and the club treasury was enriched recently by the purchase of $200 in War Bonds.

The February issue of "Texas Game and Fish" tells of a homesick buck deer that traveled 400 miles to his home range, after being transplanted by game wardens. The buck was trapped on a refuge in Aransas County, where deer are plentiful, in January 1941. He was ear-tagged with a metal tag and shipped to Sheffield, in the Trans-Pecos region of Texas, where deer are comparatively few. In November, 1942, the deer turned up again in another batch trapped on the Aransas County refuge.

One other deer, trapped several years ago on the Aransas refuge, created quite a stir by returning from a release point 50 miles away. This journey pales into insignificance beside the cross-country record of the new champion. These are said to be the only authenticated incidents of transplanted Texas deer returning over long distances to their original homes.

In connection with its Junior Sportsmen's program the DuBois Sportsmen's Association, DuBois, set a very fine example recently by entering a year's subscription to PENNSYLVANIA GAME NEWS for eight high schools and two hospitals.

"On the morning of January 15, my neighbor Drew Sipes came to my headquarters inquiring how to remove a skunk that had entered his cellar and not leave an odor through the house.

"I accompanied him to his residence and found that he had a medium sized skunk in a trap set for rats under a potato bin. Since the bottom of the bin was some ten to twelve inches from the cellar floor I was at a loss on how to remove Mr. Skunk.

"After quite some meditation I sent Mr. Sipes to our local doctor to see if he would let us have some chloroform. Mr. Sipes returned with a small vial of chloroform, and with the aid of a section of a towel and a carpet beater I was able to put Mr. Skunk under the influence of the drug and to remove him without any difficulty, and without causing any inconvenience or embarrassment to the household."—Game Protector William Lane, Division D, District 6.

The unanswered question "What age can a wild duck attain?" is reopened by an item in the Oklahoma Game and Fish Department's February bulletin. Ranger Joe Lewis, the item states, sent in a leg band from a wild duck killed last season near old Fort Washita in Bryan County, Oklahoma. The item further claims that this band was placed on the duck in 1930 by the Bureau of Biological Survey—forerunner of the present Fish and Wildlife Service. The species of duck was not named.

"On January 29 I saw a bald eagle sitting on an old dead tree on game lands No. 86."—Game Protector George H. Burdick, Division F, District 4.



Bird-banding is Dayton Murphy's hobby, and his studies and observations of birds' habits are similar to those of Jack Miner of Kingsville. Mr. Murphy's bird sanctuary at Wellington, Ontario, has been the home of some of the rarest birds that have visited Ontario. One of his specimens is a white-fronted goose, familiar on the Pacific coast but quite unusual in Ontario. Along with a recent communication to Dr. Harold B. Wood, President Protem, Eastern Bird-Banding Association, Harrisburg, Mr. Murphy sent the above photo of himself and two Canada geese.

"We have had a fortunate break in the weather this past week. The warm sun melted the snow and crust from the south sides of the mountains and it will mean life for a good many deer that would have otherwise died before the month was out.

"We have also experienced the usual winter hysteria of some fireside sportsmen who don't know a thing about conditions governing the winter feed for deer and it is about time that some effort is made to educate these people and take a stand, as we have done on the doe question, and bring it to its true perspective. In Potter County we are surrounded by State Forest Lands over which we do not have any control, and the only means that I have is to encourage certain chemical wood contractors to cut in such areas that I have recommended to them. Putting out shelled corn or scratch feed, as the case may be is a wanton waste and we haven't been able to get any corn on the cob. It would be better if obtainable but it isn't.

"I have begun to believe that the maintenance of a deer herd in Potter County is controlled by the temperature of the winter months no matter how much feed we have; however we do know that it is scarce enough, but the prime factor remains that if we have a prolonged spell of zero weather the deer lose weight rapidly and naturally the yearlings suffer. The answer, to my mind, is shelter belts, but we don't have any. I know of two small swamps of about four acres in my district. The deer migrate from the tops of the mountains to the lowlands and all of our valleys are like wind-swept pastures. I think that the deer suffer more from exposure than starvation but that the combination of both is deadly.

"If the sportsmen would realize that even in the summer we have starvation of the deer herd because the animals are driven to the farmer's fields to obtain food, which necessitates the farmer killing them for crop damage to the number of over five hundred deer killed in one summer (1940), they would realize that some of our State Forest Lands will not hold them because of lack of natural browse."—W. W. Ohlman, District Game Protector—E4.

"There has been a raven living in the vicinity of land No. 30 for a month or more. I never saw one before but people who knew advise me that this bird is very definitely a raven."—Game Protector Paul S. Narby, Division E, District 3.



Club house of Aliquippa Buck Tails, wherein all meetings and other affairs are held. The club put out 800 pound of scratch feed and several bales of alfalfa last Fall and stocked 8 dozen rabbits. It maintains a Special Dog Training Area.



Left, John C. Heatley and Carl W. Bohneman, members of the Western Pennsylvania Sportsmen's Club of Pittsburgh with rabbits trapped in Frick Park. Over 250 were caught and released on unposted lands in Allegheny County.

"Soybeans are a very desirable winter food for ringneck pheasants. On State Game Lands No. 182 they feed on it more in rough weather than they do on field corn. The stalks stand up well and furnish food even when there is eight or ten inches of snow on the ground."—Game Protector E. J. Turner, District 2, Division A.

"The deep snow of the past week will cause the game, especially quail and ringnecks, to suffer a great deal. The snow is from fifteen inches deep in the farming section to twenty inches deep in the mountains.

"In a few places I have heard where quail were coming into farm buildings where they are being cared for by the farmers."—Game Protector Harold E. Russell, Division D, District 4.

"Due to the weather being open from time to time the turkeys are feeding only when conditions are rather severe or they happen to range back to where the feed is at. Squirrels are very plentiful.

"Foxes are very much on the increase. Fifteen years ago it was rare to see the track of a red fox in the Diamond Valley section; now the track of a gray fox is about as rare, but there are quite a few red fox tracks to be seen."—Game Protector Russ G. Metz, Division D, District 2.

"The deer have started to follow our feed lines so that it is almost impossible to stick up corn anymore and in this section the deer seem to be more plentiful than they were this past year.

"There has been a nice lot of turkeys left and although the sportsmen are not feeding this year as much as they did in the past, on account of the shortage of gasoline, I have had turkeys reported in almost every part of our turkey country.

"The rabbits have not shown up so plentiful as we expected, but will probably trap a few this month."—Game Protector R. F. Turley, Division D, District 5.

Deer at Refuge headquarters lost his antlers on the 18th day of January, 1943.—W. G. Mathews, Game Land Manager, G-2.

The grouse in Cooks Forest are stealing the apples out of my rabbit traps. They are very careful not to go near the trap end but peck them out through the wire.— Edward Shaw, Game Lane and Manager, F-6.

I counted 26 ringneck pheasants at one of my feeders at one time; five were male birds.—Burt Outdette, Game Land Manager, F-3.

Quite a few dogs chasing deer in this section. On the 25th, five dogs drove a deer to the creek about a mile above my headquarters. She fought them off until help arrived—Elmer Pilling, Game Land Manager, E-10.

Large herds of deer are coming out into the fields to eat on most sunny afternoons. Twenty-seven were counted feeding on a clover field of about four acres last week and children on a school bus running from Gaines to Asaph, a distance of about twelve miles on U. S. Route No. 6, counted 87 deer one afternoon.—Hugh E. Baker, Game Land Manager, C-1.

Deer sure have been coming out in the fields lately. Near the Liberty-Roulette Twp. line it was possible to count up to 73 in one herd feeding on the hillside. Other herds of 18 to 35 could be seen between Port Allegany and Roulette.—Cecil D. Hancock, Game Land Manager, E-1.

While putting out corn in vicinity of Little Medix and Medix Run on January 22, I counted 58 deer and 7 wild turkeys. In spite of the severe winter the deer seeemd in pretty good condition. I have not found a dead deer or any other kind of game.

On January 29, I cut some sprout growth that had grown out of reach of the deer. I quit about 1:00 P.M., and at 3:30 P.M. I counted 10 deer feeding in that area.—Edward R. Richards, Game Land Manager, E-8.



Photo by Ruth E. Hopple

Feeding station at home of W. J. Ballor, retired refuge keeper, Gouldsboro, Pa. He has seen 26 squirrels at the shelter at one time.

THAT'S LIVING

Did you ever walk along a brook
And try to find its end,
Or stroll along a winding path
To see the river's bend?

Or smell the smoke of burning leaves
At harvest time in fall?
If not, dear friend, I'll tell you this:
You haven't lived at all!

Did you listen to the croaking frogs
In some far-off lagoon;
Or see a blazing sunset
Or the rising of the moon?

Have you ever heard a violin's song
In the quiet of the night,
Or a whip-poor-will on a distant hill,
And the wild geese in their flight?

You must have fished in mystic pools
When speckled trout were biting
And seen them shimmer in the sun
As they break water fighting!

Of course you've wandered off the trail
And got lost in the night;
You've heard "God's" creatures scamper off
With eyes like glowing light!

I trust you've heard the partridge call
Deep in some distant wood;
But if you haven't, my dear friend,
I think you really should!

Then how about the whisper
Of the wind among the trees,—
To hear the blue-jay's chatter
Or the drone of honey bees!

Have you ever seen the sun descend
Behind a sky of blue;
Then sit beside a campfire
With a friend both tried and true?

Some folks acknowledge nature
Still do not heed its call,
But if they think that's living
Then they haven't lived at all!

R. P. BERTERA,
Springfield, Mass.

1-20-40

Walter A. Gresh, regional inspector in the Federal Aid Division, U. S. Fish and Wildlife Service at Atlanta for the past few years, has been promoted to Assistant To The Chief of the Federal Aid Division with headquarters in Chicago.

He succeeds R. M. Rutherford, who was advanced to chief of the Division of Federal Aid in Wildlife Restoration, the post vacated when Albert M. Day was designated liaison officer between the Fish and Wildlife Service and the various defense agencies with headquarters in Washington.

Mr. Gresh was a former employe of the Pennsylvania Game Commission where he served for seven years as Land Acquisition Assistant in what was then the Bureau of Refuges and Lands.

"I have seven coveys of quail feeding at the shelters on SGL No. 95 this winter averaging about 11 to the covey."—Game Protector R. P. Schmid. Division F, District 7.

UNITED STATES DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

GAME TAKEN IN THE UNITED STATES, YEAR 1942

Data Taken From State Game Departments and Other Sources
Compiled by W. E. CROUCH, *Chief*, Division of Game Management

	Number		*Pounds, dressed*	
Big Game				
Deer	598,241		59,095,576	
Elk	33,761		9,014,187	
Antelope	9,459		790,810	
Moose	121		54,450	
Sheep	22		2,486	
Goats	100		11,300	
Bear	5,269		790,350	
Total		646,973		69,759,159
Upland Game				
Rabbits	45,823,574		68,735,357	
Squirrels	22,345,906		22,345,906	
Raccoon	401,316		3,451,315	
Opossum	1,331,289		5,325,156	
Woodchuck	1,188,132		5,465,407	
Total		71,090,217		105,323,141
Upland Game Birds				
Quail	22,303,198		6,690,954	
Pheasants	15,188,516		30,377,032	
Grouse	2,972,489		3,864,232	
Partridges	897,815		897,815	
Turkeys	47,851		412,474	
Total		41,409,869		42,242,507
Migratory Game Birds (other than waterfowl)				
Doves	11,121,670		2,224,330	
Pigeons, Bandtail	128,969		116,072	
Woodcock	202,883		64,918	
Rail and Gallinule	52,097		36,467	
Sora	12,148		2,429	
Total		11,517,767		2,444,216
Waterfowl				
Ducks	16,275,864		32,551,728	
Geese	440,472		3,083,304	
Total		16,716,336		35,635,032
Grand Total		141,381,162		255,404,055

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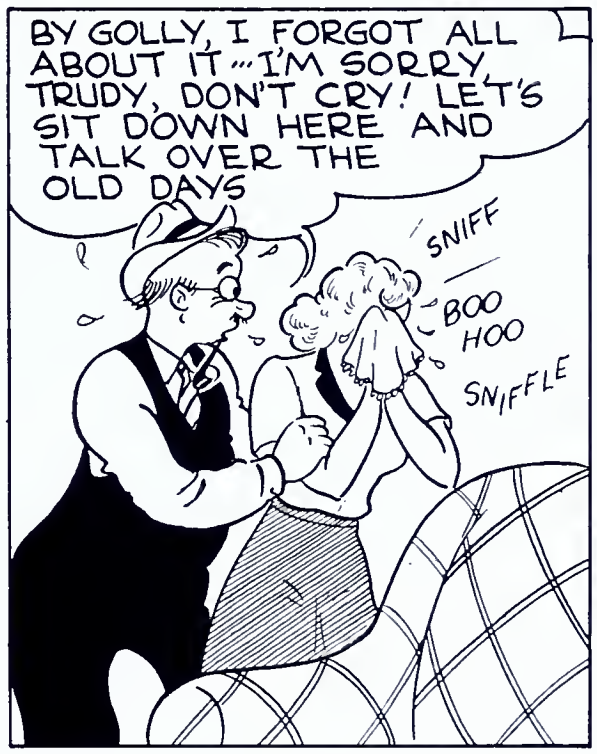
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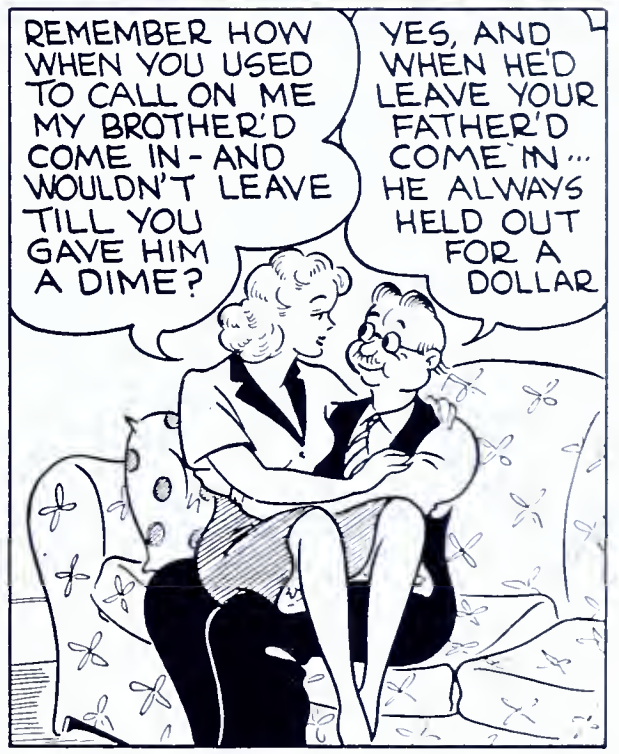






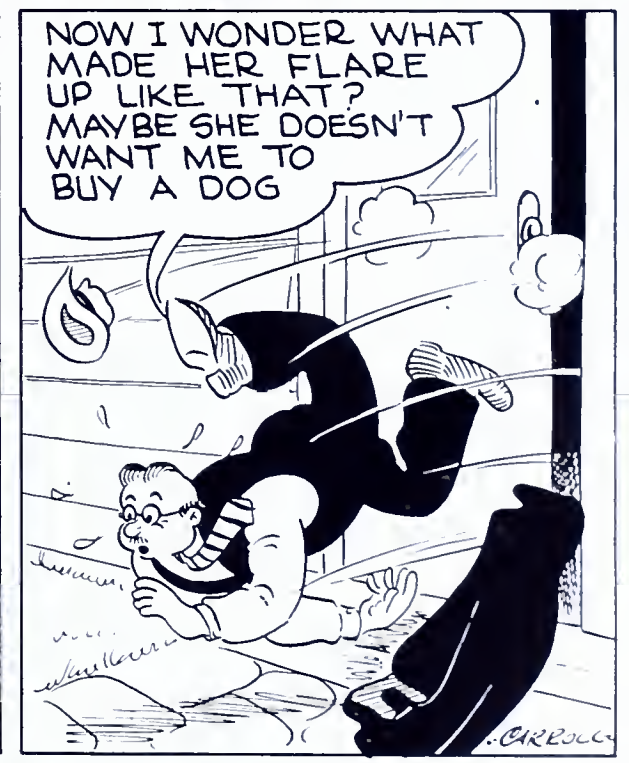














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VOL. XIV, NO. 2

EDITORIAL

JUNE, 1943

IN THIS ISSUE

☆

Forestry in Wartime
(A Report)

★

It'll Happen Every Time
By Joe Austell Small

★

Sporting Ammunition and War
By Seth Gordon

★

Hard Trapline Facts
By S. V. Sedlak

★

Log of Rattlesnake Shack
By A. B. Champlain

★

Farm Ponds
By Frank C. Edminster

★

Cave Exploring
By Dr. R. W. Stone

★

Seagulls Are Saviors
By Col. Henry W. Shoemaker

★

Camera Stalking
By Frank J. Floss

☆

WAR DOG BREEDING

Note: This month we are turning the editorial page over to Uncle Sam. He is badly in need of war dogs and Lieutenant W. Newbold Ely, U. S. Coast Guard Reserve, is going to discuss briefly an expansion of the breeding program.

"Here is an opportunity of making a definite contribution toward winning the war. The Armed Forces need more and more war dogs. Two hundred thousand is the goal and with the expansion of the training program, the supply of suitable dogs for training is being rapidly depleted. The answer to this pressing need is a sensible breeding program begun today, not a year hence.

"If you have the facilities accept this offer as these dogs are daily protecting and saving the lives of the men in our Armed Forces.

"Under the auspices of the U. S. Coast Guard, you will be furnished a German Shepherd bitch, either bred or ready to breed. If not bred, we will attend to breeding her for you when you advise she is coming in season. When the puppies are weaned the bitch is to be returned to us, or kept by you, whatever you and the owner wish, and the puppies will be taken by us when a year old. A Coast Guard truck or government crates will be sent at our expense. Shipping charges of the bitch to you and her return; the shipping of the bitch to be bred; and the shipping of the puppies to the Coast Guard Training Center will be borne by the government. The expense of food, medicine, etc., are yours. Many veterinarians have patriotically donated their services to assist in this work. Try to get a veterinarian in your neighborhood to help your individual project.

"For those not within 50 miles of the U. S. Coast Guard Training Station, Elkins Park, Pa., we suggest that you organize in your section a Puppy Raising unit of several members. One member to care for the bitch and the puppies until weaned. Then the puppies are distributed among the other members and raised to a year of age.

"With the bitch will be given a simple Puppy Raising Guide.

"For bitches placed within a 50 mile radius of Philadelphia, the puppies are taken by Henry Wessel for the Coast Guard when weaned. Mr. Wessel's phone is Pennypacker 8840, or Majestic 0722, address 1420 Walnut Street, Philadelphia.

"This program has the sanction, not only of the U. S. Coast Guard, but also of Dogs for Defense, the sole procurement agency of dogs for the Armed Forces, and is under the supervision of W. Newbold Ely, Lieutenant, U.S.C.G.R.

"Each raiser of a war dog will receive an official certificate, and we assure you that the Armed Forces will be genuinely grateful to each person who can see their way clear to cooperating in this vital war effort.

"All communications should be addressed to Atha T. Whitaker, Blue Bell, Pa., District Manager."



Uncle Sam Needs More War Dogs

Any dog lover who is interested in contributing to this worthy cause should contact W. Newbold Ely, Lt., U.S.C.G.R., Ambler, Pa.

Forestry In Wartime

EDITOR'S Note: Believing that our readers will appreciate a summarization of the multiple uses of forests in the war effort I am excerpting portions of the report of the Chief of the U. S. Forest Service for 1942. The following letter to Hon. Claude R. Wickard, Secretary of the U. S. Department of Agriculture from Earl H. Clapp, then Acting Chief of the Forest Service, outlines the highlights of the war service program. Excerpts which follow furnish added information on various phases of that program.

Production for War Handicapped by Past Neglect of Our Forests

"The Nation's forests are being called upon for a tremendous output of materials essential to the war effort. Billions of feet of lumber are needed to house the expanding American armed forces and the growing army of workers in war industries. Wood and wood derivatives are needed for ships, wharves, airplanes, gunstocks, explosives and a host of other war materials and facilities. Some eight billion board feet of lumber is the estimated 1942 requirement for boxing and crating war materials, agricultural products, and essential civilian goods. Orders for Army beds will call for from 30 to 40 million feet of hardwoods this year. A million feet a day will be needed for Army truck bodies.

"Wood in 1942 was classed as a critical war material. The War Production Board issued an order freezing supplies of softwood construction lumber for immediate war uses. Increasing difficulties were experienced in finding high-quality timber needed for a number of specialty uses.

"In the face of mounting requirements for war use, total lumber production in the United States in the first half of 1942 decreased some 5.4 percent as compared with the corresponding period of 1941. A number of factors contributed to the decline in production—weather, equipment and labor shortages, transportation difficulties, financial uncertainty. Yet back of all this is the fact that our Nation has allowed much of its forest land to deteriorate.

"With all this, an increasing number of progressive operators in all sections are applying conservation practices. Some have organized their holdings for sustained yield under technical supervision. Sponsorship by the National Lumber Manufacturers' Association of lands held and managed for future timber growth as 'tree farms' and the conservation program of the Southern Pulpwood Producers' Association are encouraging developments. But such efforts are still very much in the minority. About 80 percent of all cutting on private forest lands of the United States is still without concious regard to perpetuation of timber growth . . ."

Forest Service Concerned, Industry Complacement, and People Confused

"The Forest Service is deeply concerned over the unnecessary destructiveness of cutting and related practices which threatens the ability of the forests to continue to supply adequate raw material for forest-products industries in many communities. It fully recognizes that war demands for forest products must be met. It is aiding such production in every way possible. Simultaneously, it is striving for the elimination of wasteful and destructive practices in order to leave forest lands in productive condition for the future.

"Since the crux of the Nation's forestry problem lies in the privately owned forest land from which about 95 percent of the Nation's forest products are being obtained, the public should realize that the Government has no authority to control or prevent indiscriminate and destructive cutting on such lands.

Public Regulation of Cutting Practices Needed

"The Forest Service believes that, now more than ever before, public regulation of cutting and other closely related forest practices is needed to keep private forest lands reasonably productive on a national scale.

"Conservation of a basic growing stock need not and should not preclude reaching necessary wartime production goals. Partial cuttings, in fact, in some cases may yield a given volume of lumber with as much as 10 percent less labor than clear-cutting. Similarly, a given quantity of yellow birch aircraft veneer may be obtained in selective cutting from a log volume one-third less than would have to be handled in clear-cutting.

"No country in the world has yet been able to get widespread forestry on private lands without public regulation. There is no reason to believe that the United States will prove an exception.

"Public regulation should be adapted to local needs. It must be safeguarded both against bureaucratic administration and against seizure of the regulatory machinery by the interests controlled. Such regulation would minimize the impact of the war on the productivity of the forests. It would protect the progressive owners who practice sound forestry from the unfair competition of the liquidators. It would protect farmers and other small owners who are now largely at the mercy of timber buyers and operators. It would provide the 'rules of the game' essential to continued free enterprise and leave ample opportunity for independence, ingenuity, and resourcefulness in business management.

"Important though it is, the authority for

(Continued on page 18)



Photos—U. S. Forest Service

Ft. Belvoir. A class of the pontoon school of Ft. Belvoir receiving instructions in the use of infantry assault boats for pontoon bridge building. The pontoon foot bridge made up of ¼" Douglas fir plywood hulled boats can be seen toward the rear.

It'll Happen Every Time



"We argue over quail hunting vs. handball constantly."

I LIKE Dr. Ben Watson. He's the kind of a fellow you want to like you. The kind of a man, in fact, that would make a good quail hunter.

But the Doctor's sense of humor is all out of balance. Things and expressions that leave a look on my face like I've just smelled decayed limburger bring hearty guffaws from Ben Watson. It's just one of those idiosyncrasies of the human race. I can't understand it.

For instance, Doc runs true to form that brisk Friday morning when I stroll into his office for a short check-up.

"Hi, Doc old man! How yuh doin'?"

"Splendid," Doc admits, rolling a cigar around in his mouth, "with the exception of three things."

"And they are?"

"Stomach trouble, dropsy and a weak heart," he confides.

"Chronic!" I groan. "What do you figure is the cause of your ailments?"

"It's just this," Doc looks mighty serious. "I have trouble filling my stomach, every chair I see I want to drop into it and I haven't the heart to get up—stomach trouble, dropsy and a weak heart; get it?" The doctor slaps a plump thigh and laughs until his Adam's apple quivers like a mole on the stomach of a hysterical fat man.

"Aw, be your age," I growl. "Noah sprung that one on his grandpa!"

"No," the doctor interrupts seriously. "Just about everything is the matter with me physically. I've had a time trying to sleep the last few nights; I can't digest anything I eat, and . . ."

"I know, your lumbago is acting up again."

"Yes, and look at this complexion of mine—blood's bad."

"I'm the doctor for you, Doc," I insist. "If you'll do what I say, insomnia will metamorphose into something akin to the sleeping sickness; you will be able to digest anything up to raw hog liver, and I'll guarantee you a remarkable complexion."

Doc just looks at me under the right end of his left eyebrow and spits disconsolately, insinuating a hiss.

"Now, Doc," I continue, disregarding the look on his face. "Get ready and go with me Saturday afternoon . . ."

"On one of my glorious quail hunting trips," Doc finishes my little spiel. "A trip into the grea-a-at outdoors will quicken your pulse, improve your health, and, and . . ."

"Cure your lumbago," I supply.

We argue over quail hunting vs. handball constantly. Doc is a dentist. He labors on bad molars long hours throughout the day and perhaps once or twice a week plays a game of handball inside a musty gymnasium. This is supposed to keep him fit. As far as I can find out, the only time Dr. Watson had ever been in the open, with the exception of walking down city streets, was once when he had to get out of his car on a country road and fix a flat.

"Now, Doc," I persuade. "Try and anticipate the sublime sort of ecstatic joy that comes with following a good dog through a cutover field of hay. You're working through the stubble, your dog hot on the scent.



"Beads of perspiration roll down our faces as we climb the weed-covered slopes."

They've drifted up a wide draw and into a shallow wash in the nearby meadow. There's a stand of yaupon on the rim of an old abandoned field. That's where they are! The setter's working slowly now, every muscle attuned to perfect rhythm. And now it comes. The point. Head high, tail out and angled up slightly. It's the grandest scene in the world. You can't beat it!

"Think," I persist, "of the sublime sweetness that comes with basking gloatingly over the first victim that falls to your faithful scattergun."

"Horseradish!" Doc's enthusiasm is nil.

"And to experience," I continue undaunted, "that snug romantic sort of restful feeling that comes with the end of a day spent outdoors."

"Horsefeathers!" he emits idly.

"Can't you think up an expression," I snort, "without a horse in it?"

"Sure," he grunts consolingly, "bull—only!"

"Aw, go chase a black cat!" I snap.

"No apparent good in that," Doc considers, knowing he's got me going.

"You'd at least be outdoors." I arise to depart.

"You'll have to admit it's a bum idea for me to take up quail hunting," Doc persists.

"Sure," I agree, discouragingly reaching for my hat.

"These guys that go into the outdoors with the conception that it will cure all their ills are plain nertz!"

"You're absolutely right!" I fling over my shoulder impatiently.

"And that as far as real he-man sport, it is gooseberries!"

"Sure, sure—it's awful. Just shut up!" I'm turning the door knob now.

"In that case," and there is a change of tone in his voice, "I'll go with you!"

"What?"

"You heard me," he confides. "When do we start?"

Have you really ever wanted to "show out" before a friend—especially one who knows nothing whatsoever about quail hunting and you are trying like thunder to sell him on the sport? Remember how it came out? It'll happen that way 99 times out of 101. . . .

It's the hottest winter Saturday afternoon I ever experienced. Beads of perspiration roll down our faces as we climb the weed-covered slopes, work the brushy draws, comb every likely stubblefield. During extremes of weather like that, there's not much telling what quail will do. But nine to ten they'll hole up under some protected shade during the afternoon and feed at dusk or early next morning. You can't expect a raw recruit to understand this, however. I had told Doc that we should get plenty of shooting on the old Glover farm. So after the first hour he begins glancing at me significantly. I can't help but get painful little reminiscences of



"Not soon will I forget the look on Doc's face when he walks out from a clump of oak brush, smelling like something out of this world."

By Joe Austell Small

Reprinted Courtesy American Field

my flowing, descriptive vocabulary the day previous.

That first bevy is a booger. It comes a full hour after Doc had given me that first baleful glance. The little pointer suddenly goes tense, hesitates momentarily to get the drift and is off in grand style. And it don't take long after striking the trail. They are in a heavy growth of brown mesquite grass. The dog stands there like a gray statue, crouched a little, head level, tip of the tail slightly aquiver. I want Doc to be sure and get a chance to appreciate the whole picture.

Doc wades in then. He steps in front of the dog, slightly stooped, searching the ground for quail. And then they are up in a whirr, a small bevy and flying low. I can't shoot. Doc is in my line of fire. He doesn't shoot either. That man's got me guessing. He takes in after the flying birds at a long trot, gun ready. I call. He doesn't hear me.

And then his gun rings out. I am trying to catch up. He is behind a screen of bushes and I can't see what is going on.

Not soon will I forget the look on Doc's face when he walks out from a clump of oak brush, smelling like something out of this world.

"I see a movement in the bushes. Thought it was that bunch of quail," he explains. "I must have shot a skunk. Little rascals sure have bad breath, eh?"

Doc don't have a change of clothes. He won't go home yet. Says he's made up his mind and is going to see it through. That scent is awful.

The doctor is pretty close to being disgusted. "This, I suppose," and there is a drip of acrid sourness to his voice, "is the sublime sort of ecstatic joy that comes after following a good dog to an exciting point."

"You shouldn't rush in ahead of the dog that way," I begin, realizing that I haven't taken out quite enough time to explain about quail hunting to the doctor. "You shouldn't shoot at objects on the ground; always take them on the wing, and it's not the cat's *breath* that smells bad.

"Oh," Doc emits, and we walk on in silence.

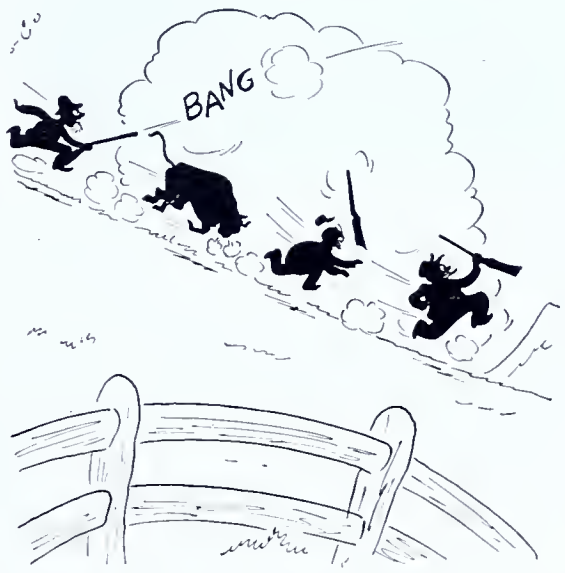


"I don't understand how Doc figures he can exterminate the animal with a scattergun carrying No. 8 shot."

I don't know why that blasted bull has to stick his nose into an already bad situation. I can't imagine why Doc becomes suddenly panicky and figures the bull a menace to our present safety, even though he is walking toward us all right, eyes blared and throat rumbling out bull-cussings in no uncertain tone. And above all, I don't understand how Doc figures he can exterminate the animal with a scattergun carrying No. 8 shot.

Why doesn't he miss that bad tempered he-cow like he'd missed everything else he'd ever shot at? But he doesn't miss and therein lies the running. That bull lets out a beller that is a dust-raiser and a hair-straightener. Doc's feet start fighting the earth and I naturally try to keep up with him since I don't want the man to get lost. Fact is, I soon pass him and take the lead for fear Doc might run in the wrong direction.

Everything goes well until some bushes overgrown with berry vines get in our way. Thorny bushes are very inconvenient at a time like that. They tear your clothes up



"The farmer heard the bull bawling and us yelling, and started in behind the whole procession."

pretty bad. Afterwards I tell Doc we should have picked the clear places to run in.

When Doc gets through with that first wire fence we encounter it is a mere memory of its former self. You can hear rusty staples "skreek" for a half mile. I know, because the farmer, who lived a half mile away, heard the staples, the bull bawling and us yelling, and started in behind the whole procession with a shotgun. He didn't want us bothering his pet bull.

We quit running a mile and a half from where we finally lose the bull and that farmer. The only reason we stop then is because Doc finds the creek. He's pulled up ahead of me again when that farmer fires the first time. I figure Doc has found the creek when I hear that mighty splash.

When I note the expression on Doc's face as he emerges, teeth chattering, I can't help but think of a little monkey I'd seen in the zoo one day getting an unexpected ducking by its enraged parents.

Doc tilts his gun so the water will run out and wipes a wet brow which also yields a little red, seeing as how he's just come through the thorny berry vines.

"And this, I presume," Doc's voice is deep



"Silently Doc climbs out and begins pushing."

with assumed politeness, "is the sublime sweetness that comes with basking gloatingly over the first victim of your faithful scattergun!"

"Let's sit down awhile and feed the mosquitoes," I suggest. It was hot on that creek bank and we'd had a long run. The mosquitoes were terrific. If anyone tells you it can't get hot and mosquitoes are not ferocious at such times in the South, get him to run for some public office. He'd be windbag enough to win without a runoff.

It starts thundering then.

"I thought it was too hot for even a hot midwinter day," Doc takes notice of the rolling, black clouds. "We're in for a heavy rainstorm, I'd say."

And we are. By the time two tired hunters drag up to a wet car, those dirt roads are already slick.

"You'll have to push," I reveal, as the wheels spin over and over in a sloppy, slushy mud hole.

Silently Doc climbs out and begins pushing. Maybe he thinks it's just as well. The top of my old hunting jitney isn't too close these days. It only helps concentrate rivulets of icy water to the most awkward of places—down your collar, for instance.

Finally, old "Dammit" catches hold, lurches forward and clears the mud hole. But that sudden departure effects a sad situation. It leaves Doc face down in the mud hole.

We're rattling down a comparatively good stretch of road after thirty minutes of wallowing in mud ruts. The rain has slacked a little and there is a damp, clean smell to the air.

"I'm sorry, Doc," I lament, as I think somewhat bitterly how the iron hand of fate has picked this of all days to heap her ill luck upon me.

"Sorry for what?" Doc is smiling now, his voice genuinely benignant. "Don't you realize man, that you have opened my eyes? Do you know that I could eat a hog's liver right now? Can't you see that I'm so fagged that I'll have something akin to the sleeping sickness from the time I hit bed until my alarm clock wakes me?

"And," he says, a flash of lightning illuminating a mosquito-bumped but smiling face, "I also have that *remarkable complexion* you promised!

(Continued on page 26)

Sporting Ammunition and War



Photo by W. L. R. Drake

In recent years we have been issuing about 8,000,000 licenses annually to hunt in the United States.

AT a gathering such as this 21st Annual Convention of the Izaak Walton League of America, it would seem wholly unnecessary to discuss the history of hunting in North America and what the sport has meant to the social and economic development of this great county of ours. Suffice it to say that in the beginning the old Kentucky rifle was fully as important to the American pioneer settler as were the crude implements he used to till the soil. Later on market hunters made it possible to push our great transportation systems to the Pacific; and after the country became settled the sport of hunting helped to maintain the pioneer spirit of our forefathers and to develop in their descendants the ability and physical stamina to cope with any problems, whether at peace or at war.

We are all aware of the manner in which the pioneer riflemen who could shoot straight and shift for themselves won battle after battle during the Revolutionary War. We have all heard repeatedly the stories of our successes in succeeding conflicts, including the first World War, because our soldiers knew how to shoot and to take care of themselves under difficult circumstances. Right now stories are drifting back from all the battle fronts of the world applauding the victories being won by our boys because they have been trained to outshoot and to outmaneuver the best soldiers our enemies have put in the field. Yes, even though the pioneer days are far behind us we are still a "Nation of Riflemen" because our wildlife resources have been restored to abundance. National Defense and the future virility of the Nation will always be definitely intertwined with hunting as a recreation and sport.

We are bound to win the terrible struggle that was thrust upon us at Pearl Harbor, but in winning it let us not forget the fundamentals which have made that victory possible. Maintaining our conservation programs in America will be equally as important to the future welfare of the Nation as they have been in the past. And let's plan now to come out of this struggle with our conservation programs in better shape than they were after the last war!

Almost 15,000,000 Hunters Annually

In recent years we have been issuing about 8,000,000 licenses annually to hunt in the United States. In addition to those who purchase licenses, there are about 6,000,000 men and boys on the farms and ranches of the Nation who legally use firearms regularly without securing licenses. This means that we have somewhere in the neighborhood of 15,000,000 people in this country who own and know how to use firearms. Contrast this to the sad plight of some of our Allies. You all remember the appeals only a few months ago to contribute guns for home defense in the British Isles. Most of the recipients of these firearms undoubtedly had to be instructed in their use, because for generations only a small percentage of them had an opportunity to enjoy the democracy of the chase as we do in America.

We are all acquainted with the many other benefits derived from hunting—the health-giving recreation, the companionships, the opportunities for urban and rural residents to intermingle on a mutual basis, and the many other social and economic benefits which might be enumerated.

Normally, in this country we have been manufacturing approximately 800,000,000 rounds of shotgun ammunition, of which about 600,000,000 shells, according to the best estimates available, have been used for hunting. The total production of high-power rifle ammunition for civilian use is around 50,000,000 cartridges, of which it has been estimated that approximately 40,000,000 rounds are normally used annually for hunting, also about a billion rounds of small game rifle (.22 calibre, etc.) cartridges.

Advance Buying Very Evident

Federal statistics indicate that during the past three years there was considerable advance buying, or private stocking up, of ammunition of all kinds. For two successive years the 10% Excise Tax on sporting arms and ammunition (Pittman-Robertson Fund) skyrocketed to better than $5,000,000 a year as against a normal income of approximately $3,000,000 or less annually. As in everything else, there has been a certain amount of piggish hoarding, and some bulk purchases for no other purpose than profiteering.

Last summer the manufacture of ammunition for civilian use had to be discontinued entirely in the interest of the war effort. Last fall the retailers' shelves quickly became bare, especially where the merchants were not wise enough to institute a "rationing plan" of their own. Shotgun shells and rifle cartridges in many localities sold for two and three times their normal value. Reports indicate that in the West 30-30's sold for as much as 75c and even $1.00 per cartridge.

In reviewing the situation early in the winter it became evident to officials of the U. S. Fish & Wildlife Service, as well as State Game Administrators, that while there



This one, killed December 4 last year, by Lee Snyder, Sunbury, at Blackwell, Tioga County, hog dressed 172 lbs.

* Address to 21st Annual Convention of the Izaak Walton League of America, Chicago, Ill., March 25-27, 1943.

By Seth Gordon

are thousands of hunters throughout the country who have enough ammunition on hand to go through another shooting season, there are many thousands more who are absolutely without ammunition of any kind. This is true especially in the rural districts where many country lads buy only five or ten shotgun shells, or part of a box of .22's, at a time.

After studying the problem it was decided that unless a way could be found to furnish a reasonable supply of ammunition, "black market operators" would likely make enormous profits, and five to ten million lovers of the chase would be unable to enjoy their favorite recreation this coming fall. Other equally serious problems loomed over the horizon, which I shall discuss later.

Conferences With Federal Agencies

Upon invitation of Dr. Gabrielson, Director of the U. S. Fish and Wildlife Service, the speaker went to Washington early in January to join him and representatives of several Federal agencies in a conference with the officials of the War Production Board, at which time the situation confronting all the States, as well as the Federal Government, was discussed in a preliminary way. It was then quite obvious that if figures could be obtained on (1) the food collected incident to hunting, and (2) the regions in which damage would be done to our domestic food production program if wildlife crops were not harvested in the normal way, such data would weigh heavily with the Federal authorities who must first see to it that our armed forces are adequately equipped and fed, and second whether the production of ammunition for civilians might aid the war effort.

Other considerations were the need for recreational opportunities to maintain morale and physical stamina on the home front, also the fact that many of the State conservation agencies would be without funds to continue even skeleton organizations unless hunting licenses could be sold to replenish depleted coffers. It is a well known fact that in all of the states in the Union the funds to protect and manage our wildlife resources come from the fees of the hunters and anglers, and that even in the case of the U. S. Fish & Wildlife Service the sale of duck stamps to more than a million individuals each year plays a mighty important role in maintaining the waterfowl supply.

Following the conference with the WPB officials, Dr. Gabrielson appointed a special committee of seven consisting of Raymond J. Kenney, Commissioner, Massachusetts Department of Conservation; P. J. Hoffmaster, Director, Michigan Conservation Commission; your own Executive Secretary, Kenneth A. Reid; I. T. Bode, Director, Missouri Conservation Commission; William J. Tucker, Executive Secretary of the Texas Game, Fish and Oyster Commission; Frank B. Wire, State Game Supervisor, Oregon Game Commission, and the speaker to aid the Federal Government in collecting the necessary information quickly for presentation to the War Production Board.

Game Harvest Exceeds Quarter Billion Pounds

The assembled information was first presented in a preliminary way to the 8th North American Wildlife Conference at Denver last month, where game administrators and others interested had an opportunity to discuss the entire problem with one of the officials of the War Production Board who was good enough to spend three days at the Conference.

That information, which was officially laid before the officials of the War Production Board at a conference on March 5th in Washington, surprised many of us who thought we knew something about the annual wildlife harvest in this country. The survey disclosed that more than a quarter of a billion pounds of nutritious meats were made available to the American people in 1942 *as a by-product of hunting.* These figures included almost 60,000,000 pounds of venison, 9,000,000 pounds of elk meat, 68,700,000 pounds of wild rabbit, 22,000,000 pounds of squirrels, 28,000,000 pounds of pheasant, and 35,000,000 pounds of ducks and geese were taken and used in the homes of the people of the United States last fall. The total weight of the dressed and usable meat reported by all the States except Nevada actually aggregated 253,301,930 pounds.

This wholesome meat released a quarter of a billion pounds of beef, pork, mutton and poultry that went into commercial channels, military uses, and for our Allies. The wild game harvested in 1942 produced enough red meat to provide 700,000 soldiers with one pound of choice meat daily for 365 days.

In addition to the enormous quantity of meat collected incident to such a pleasurable recreation as hunting, the sportsmen of the country last fall collected and helped to salvage for the war effort many thousands of deer and elk hides, tons and tons of fats, and a surprising quantity of waterfowl feathers, all of which will be mighty useful to the men in our Armed Services.

At the several conferences held within the past six months, it has been agreed by all concerned that, with the possible exception of commercial fisheries, no other source of meat will yield such large returns with a comparatively small expenditure of critical materials, and that if this can be accomplished incident to necessary recreation to rebuild worn bodies and frazzled nerves it is highly desirable to do.

Harvesting Annual Crop is Good Management

Our annual crops of wildlife can and should be harvested, otherwise some species would become so abundant in certain regions that the exhaustion of their normal food supplies would cause deplorable starvation losses—a waste none of us can justify at any time. Serious damage to the domestic food production program also would by 1944 cause difficulty in numerous localities. In normal times encroachments on the domestic food front might not be material enough to cause any concern, but with a critical food situation throughout the world any crop damage caused by excess wildlife populations does become important. Believe it or not, some of our wild creatures might even increase to the point where locally they would be classified as pests. This certainly would be dangerous, because it has taken many years of laborious work to build up a proper wildlife management concept. To let down the bars would be hazardous, to say the least.

(Continued on page 22)



Photo by W. L. R. Drake

More than a quarter of a billion pounds of nutritious meats were made available to the American people in 1942 as a by-product of hunting.

HARD TRAPLINE FACTS

By S. V. Sedlak



Photo by G. W. Hartman

Foxes killed in Sinking Valley, Blair County, during January and February by James, George and Robert Ferguson, of Juniata. All of the foxes were killed off the dogs shown.

AS in any other venture of life, there are ups and downs in the field of trapping too. Unlike hunting and fishing, this game is beset with many and varied wrinkles, and to be successful a trapper must be constantly wide awake if he wishes to emerge from the labyrinth of common deficiencies. A trapper learns about most of these matters sooner or later, but it is a good policy to know something beforehand if one has never followed this fascinating game; and if one has done a considerable amount of trapping there is still more to learn. Every little bit of advice will help in achieving more satisfactory results.

I am not trying to convey the impression that trapping is all hard work, hard luck and a lot of grief because there is, in fact, a great amount of sunshine for every gloomy cloud of dismay; but knowing the hard, cold facts about this game should serve the would-be or inexperienced trapper as a guide to determine his fitness for the tougher things. Most of those who are engaged in the fur trapping business are young people who, with the first sting of winter, get the cold chills down their spines and crack up under the impact of rough, disagreeable weather. It is true, too, that many abandon the trapline then because freezing temperatures present a series of complications that overtax the ability of even the most skilled trappers. But it is true, also, that the fur-bearers are quite inactive during the cold, wintry spells.

We must understand, of course, that trapping is a Fall and Winter proposition—one that requires daily attention under varied weather conditions. Fair Fall weather is a blessing, indeed. But then rain, sleet, snow, cold, frost, flood and mud come along—natural elements that one must face since there is no way of altering them. With the exception of fair weather, all other factors have a tendency to lower trapping efficiency. A trap, you see, is a small piece of steel machinery and its component parts must be in good working order when set. The old supposition of the uninformed, that a trap works twenty-four hours a day for the trapper, is a complete farce. As a matter of fact, traps must be looked at day after day if the highest degree of service is to be obtained from their use.

Traps are set either on land or in water. When a land set is completed a change from good to bad weather may automatically ruin a trapper's painstaking job in very short order. A light rain, for example, does not impair the working action of the trap, but on the other hand a fairly heavy rain produces a ruinous effect by shifting the loose earth around and down under the pan of the trap. This has a tendency to clog the works. Corrective measures must be applied just as soon thereafter as possible. Frost will form an earth crust over the trap, and a very heavy freeze will weld the trap tightly to the earth. Sleet and snow usually bring on a combined effect of frost and excessive trap covering to stifle trap action completely.

When traps are set in the water no cover over them is required in the ordinary trapping plan, but here debris of every kind, including silt and pebbles, and low or high water disrupt the efforts of the trapper. These are ordinary things to be expected in the pursuit of a trapline, perhaps for the best, since they help immensely to reduce the catch of fur-bearers thus assuring a breeding supply from one year to another. After all, nature's trick ways may well be interpreted as blessings in disguise.

Trappers often catch undesirable animals in their traps. If the wild creatures could read, then notices could be written and be posted up in conspicuous places for them to see and to understand what's what in the mind of a trapper but, unfortunately, that can not be. Even skilled fox trappers get such animals as opossums, skunks, crows, hawks, owls and house cats, and occasionally a rabbit or other small game animal, in sets doctored up expressly for foxes. As the saying goes, "there's a time and place for everything", and although trappers want these animals they prefer to get them at the right time in the right place. When they get caught in fox sets they are nothing more than a pain in the neck. You see, it takes time and considerably more care to prepare a set, especially for Mister Fox.

Speaking of foxes and their crafty ways reminds me of the time when I was a beginner on foxes. There was a big Swede whom I knew and he was quite interested in my trapping affairs. We had discussed the subject at various times. I have forgotten most of what the old gentleman told me, but one statement in particular has stayed.

"Yah, yah," he said "a fox will dig a trap up, then turn it over and (in a nice way) dung all over it." I stared at him speechlessly and wondered whether he was trying to deceive me or trying to discourage me. Well sir, seein' is believin', and you could have knocked me down with a feather the first time a fox did just that with one of my traps. The dung was left nearby instead of on the overturned trap, however. Right then and there as I viewed with dismay

(Continued on page 32)



Photo by S. V. Sedlak

A man who knows the trapping game. It costs money to be equipped right to make the trapline pay.

Log of Rattlesnake Shack



The above roster contains the names of all the visitors to Rattlesnake Shack, the concluding story of which appears on the following page.



Photo by Marty Myers
Colony of showy lady-slippers at camp.

DURING the past twelve months inclusively, we have chronicled here in GAME NEWS, some of the high lights of our activities at Rattlesnake Shack. These records were all taken from our "log" or diary of events, kept for more than a decade. Our attempts to popularize these notes into readable form fall far short of depicting the actual experiences. They at least give an idea of our method of acquiring knowledge from Mother Nature's own book—for it is surely an error to suppose that even our most familiar animals and plants are so well known that nothing more may be learned by observing them.

The contributions of many visiting friends to our notes, records and pictures we acknowledge gratefully. We are also grateful to those persons who have indicated their interest and approval of our "log." Continuing we express our appreciation to Leo A. Luttringer, Jr., our Editor and various personnel of the Pennsylvania Game Commission who have furnished facilities and advice in connection with our article.

JUNE

There is witchery in June and people are impelled by inherent desires to make weekend pilgrimages to picnic or hike. "We" crave real fresh air, filled with the perfume of flowers and earth. Shorts and light weight garments begin to predominate among our guests, as we recollect in retrospect this month's activities.

We meet the same old friends along the mountain trails and have found these creatures almost as human as people after associating with them for awhile. Our deer, rabbits, squirrels, woodchucks, opossums, raccoons, foxes, (red and gray), skunks, minks, weasels, and some others have all been busy earning their livings or raising families. Some of them know us well enough to be deliberate in passing, others flash by in frantic haste.

Late one afternoon in early June 1928, after putting the finishing touches to a campfire supper along the shore of Clarks Creek, we stood in contemplation. We had checked on Brood II of the Seventeen Year Locust (Periodical Cicada), which had then hit the headlines after making its debut into daylight. We wondered whether we would be present when the offspring of these insects came from the dark of the earth in 1945. We had interesting notes on "bugs," birds and plants and thought—how fortunate to have a wonderful valley such as this to explore, so near our Capital City in Dauphin County.

Viewing the mountain and landscape across the still waters of Kyle's Dam (now reconverted into the Harrisburg Water Supply), we were thrilled by the appearance on the other shore of a dark moving object; nothing less than a beaver large and sleek and fat, waddling down his slide into the water. It was the beginning of a two hour entertainment, that lasted until dark.

Our beaver, which we decided was an old male, after entering the water, started for the shore in our direction, swimming with powerful strokes of his webbed hind feet. Swift and graceful in the water compared with his awkward gait on land, he made a decided eddy in the slow moving stream. We quickly and quietly reached a vantage point and watched from behind the alders. Apparently he suspected that strangers were abroad—for the beaver's sense of smell is keen—and he was investigating. He circled around for a time, only his ears and eyes and nose visible above the surface of the water; then having satisfied himself that company was present, started back across the dam.

Along the other shore he stopped in the shallow water and salvaged a small aspen limb, the bark of which he leisurely ate for his evening meal. Scores of aspen trees were felled by these animals in the vicinity,

EDITOR'S NOTE: In this article Dr. A. B. Champlain concludes his interesting reminisences of Rattlesnake Shack. Through them he has unfolded the Book of Nature in a manner we will not forget for sometime to come.

I had the privilege of seeing the log book from which Dr. Champlain fashioned his series of articles. Filled with notes, sketches and photos, they represent the experiences and observations, the hunting and fishing, the hikes and campfires of every weekend for the past ten years. Not one was missed —a striking example of love for the outdoors. Thanks Dr. Champlain.

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for it is their favorite food. The logs and stripped branches are utilized in building their houses and dams.

This particular beaver resided in the backwater from Kyle's Dam, made of stone "for him and his family" by the hands of man; all he had to worry about was his house and food. This aristocrat of the artificial dam had a typical house along the shore on the steep side of the stream, which we investigated later. We continued to watch our entertainer until he finished his meal and proceeded up a side inlet where we lost sight of him. Making a detour across the creek, we approached the breast of the dam. Here we found the well-beaten runway that crossed near the breast, to another aspen grove, many trees having been cut, some of them quite recently. We waited and watched, more or less patiently, smoking the while to keep away the no-see-ums and mosquitoes which were bent on having a full course dinner, with us as appetizer, entree and dessert. Soon we were rewarded by the appearance of our beaver. He swam leisurely in our direction, played in the water for a time and decided to cross the breast of the dam to investigate lower. Making for the runway, he slowly emerged from the stream, shook himself thoroughly, the water flying in all directions, and started up the bank in his own peculiar gait.



The Bayard home in Clark's Valley.

By A. B. Champlain

Now we had a fine view of the animal. His beaver-skin coat, dark brown and luxurious, was in striking contrast to the hairless, almost flat tail that serves him as rudder, prop and danger signal. His forepaws were like little hands or claws, his working tools, the orange colored front teeth set in his strong jaws, were plainly visible—teeth which are able to cut and fell trees six inches in diameter.

Within a few feet of us he stopped, he wrinkled his nose as he sniffed with indecision. Breathlessly we watched, but in spite of this he saw us and the spell was broken. He started, stared for a second with his little eyes, intent on having one good look at us, then whirled and with a nose dive entered the water, whacking the surface with his tail ere he disappeared. Eventually he came up again and as long as we remained quiet, his curiosity overcame his fear. He swam around and around, to our great delight. When we moved he would repeat the dive and crack the water with his tail as before, coming up at some distant point. Our beaver seemed to enjoy the game himself and no doubt derived considerable amusement from our presence.

His house along the other shore was our next objective. Travelling carefully through the tangled bush on account of encountering rattlers and copperheads, we arrived about dusk, his majesty the beaver, following at a discreet distance in the stream. When we arrived near the house he wasn't far behind, he dived again and in he went, a stream of bubbles indicating the route he had taken.

Not to alarm the beaver family but to attract their attention and arouse their curiosity we tapped and scratched gently on the top of the house, which was against the steep bank. At this we heard the subdued guttural mumblings of protest from father and mother beaver, and then the more shrill squalling of babies. So there was a real family in the house to provide for. Now and then father beaver would come out at our insistent tapping. First a muffled splash when he left the house, then a series of bubbles on the surface of the water, and then his head would appear. He would swim quite close and in one instance came out on the bank nearby and gazed at us reproachfully, for we undoubtedly caused his family much annoyance.

Finally darkness spread a mantle over the countryside and we withdrew—but with the feeling that we had profited by the experience, open to all, but only as a reward for patience and perseverance. We returned at a later date to see the whole family disporting themselves in the waters of Clarks Creek. At various times we have observed beavers or their workings along this creek. There are a number of old dams below the shack area some of which may be inhabited by beavers to this day. However, these beaver dams have now become good fishing holes and are haunted by anglers during the open seasons. Since pickerel hold sway among the fish in these dams, the fall season is the more popular.

Birds continue to drop in around camp. The whip-poor-wills are sitting pretty, grouse with chicks cross the preserve, the latter getting instructions in concealment and camouflage; while young phoebe birds fully feathered are leaving their threshold for adventures in active life. Indigo buntings, black and white warblers and water thrushes, all teaching their young to fly, add to our entertainment. The latter educational programme entails much squawking and chattering as well as flitting and fluttering among the trees and shrubs.

Once you become acquainted with snakes you find that they have a personality all their own. They appear around and about all through the month and do clever things like climbing trees, impersonating sticks and playing possum, or questionable stunts like taking naps in the middle of the trail or on the porch. Most snakes would ignore us completely, if we but minded our own business. They are anxious to go their own way instead of contesting the right of way with any human being. Snakes have a lot of patience, waiting and watching by the hour for the kind of victims they prefer and then only as an item of food, for these reptiles prefer to eat 'em alive.

Take rattlesnakes for instance, they are usually lazy and rattle or strike only when feeding, injured or annoyed. What would contrast more curiously than some bright-hued fragrant garden flower and a deadly rattler, especially if the latter were coiled in repose beneath the shade of this blooming plant! Again who would not be wary with the possibility of this variety "slithering" across the front lawn during the early evening or at night? These are some of the things that keep us alert.

We have copperheads too, whose bright-hued markings often melt into the surroundings with astonishing nicety. These neighbors lie along the edges of trails and paths or in the flower beds, another good reason to be cautions when reaching for a bouquet. Copperheads also like the evening warmth of the outdoor fireplace, still another reason to walk carefully in the dark.

The large gum tree in front of camp was taken over every now and then by black-snakes which showed great dexterity in climbing. One June day we spied the long cast-skin of a snake waving in the wind from the topmost branches of the tree. Further neck stretching and observing disclosed the big black snake lying along a limb partly concealed by foliage. This individual was shot down and a full grown gray squirrel dissected from its stomach. Later, several more smaller black snake individuals appeared from a cavity in the upper tree trunk and all were executed.

Blue tailed skinks, fence lizards, house snakes, blowing vipers or puff adders, garter snakes, ringneck snakes and water snakes were counted among our usual reptiles.

Our Pennsylvania State flower, the mountain laurel blooms during June, beginning about the 5th or 8th in the camp area. A fine clump of showy lady-slippers continues to show their regal blossoms from June 6 to the middle of the month. Chestnut blossoms, with attendant multitudes of forest insects, appear from the middle to the last of June, and our *Rhododendron maximum,* commonly called Buck laurel around here, ornaments the creek banks

(Continued on page 23)

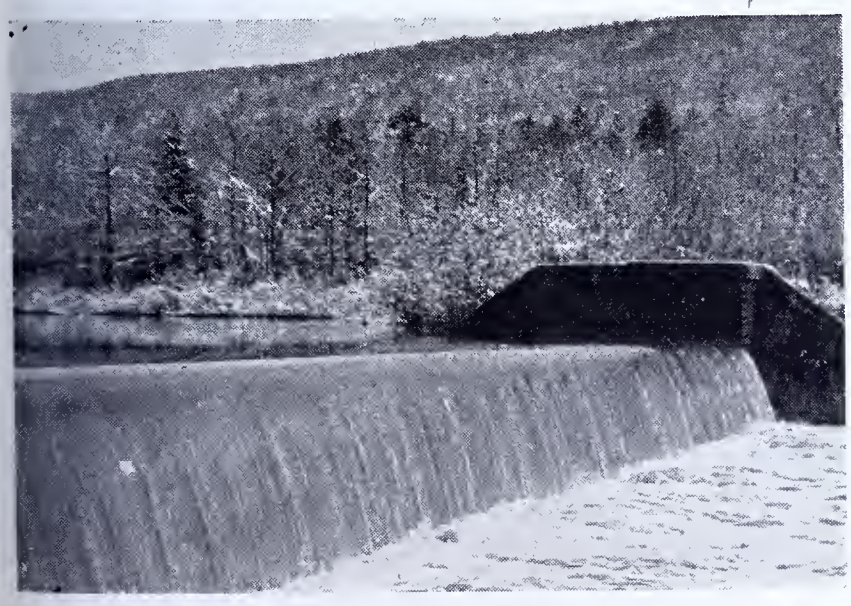


Photo by Roger Baker

Kyles Dam (before).



Photo by Ed. Love

Harrisburg Water Supply Dam (after).



There is nothing like having your fish dinner fresh from your own pond.

Farm Ponds

Photos by U. S. Soil Conservation Service.

NOW is the time to think about making better use of that pond on your farm or, if you do not have a pond, to be thinking about the possibilities of building one. Of course, you can't just have a pond anywhere that you want one just by wanting one. Certain conditions have to be right. The topography of the land must be such that with a reasonably small amount of diking and damming a good pond area can be flooded. The soil must be of such a character that when water is flooded upon it it will hold the water without appreciable seepage loss. The third requirement is the water itself. It is not necessary to have a large flowing stream but some source of water adequate to keep the pond level reasonably stable through the dry summer months is essential.

If you do have a good pond you already know that it can be one of the most useful parts of the farm. The chances are that it can be made even more useful than it is now. If you have never had a pond on your farm you may be surprised at how valuable it can be. Probably the most important use ponds serve on most Pennsylvania farms is to provide a source of water for livestock. In dry summer seasons a pond is often invaluable for this purpose. Anyone who has carried water to their livestock day after day through a long drought period will be particularly appreciative of this point.

Ponds provide a source of water for many other uses too. In an emergency for fire fighting it may one time be the difference between saving or losing a building. Not so many years ago many farmers cut their year's supply of ice from the pond each winter but with modern mechanical refrigeration, this use is losing some of its importance. The pond is invariably a source of recreation. For swimming, ice-skating, picnicking, or just plain loafing the pond is an ideal spot. Whether you work from dawn till dusk producing farm crops or in a factory producing the sinews of war, the opportunity for a little time off for a bit of relaxation beside the water is especially inviting during these strenuous times. Many industrialists have pointed out recently that rest of this type is the best cure for absenteeism.

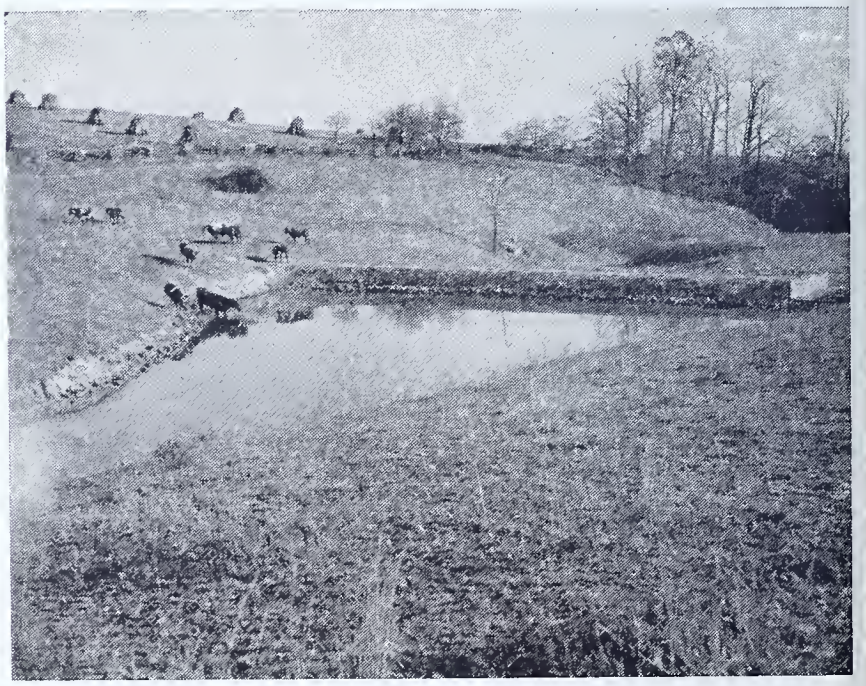
The pond is a useful part of the land use system on the farm too. Sometimes large old gullies can be flooded to make a pond, thus assisting in the control of erosion. Roadside ditches that are severely cut by rushing water along the base of highway fills can often be corrected by the construction of a pond next to the highway behind the fill. The usefulness of ponds in maintaining water tables and in providing water storage space for flood control, when considered cumulatively over many farms, is a great benefit to the community.

The pond produces many products and often these are among its most valuable contributions. Fish, fur-bearing animals and beneficial birds are among the most notable forms although the value of frogs, dragon flies, and other minor creatures is all too little appreciated. It is this wildlife production phase of farm pond management that is of particular concern to us now. Of especial importance is the opportunity for producing fish for here is a food of high protein content that serves readily as a meat substitute, so urgently needed under present war conditions. Recent developments in the techniques of fish pond management provide the means for making the pond particularly productive of this important food.

Ponds will vary immensely in their adaptability to producing a large crop of fish. Here are some of the characteristics that make for a suitable pond for fish management. It should be at least one-quarter acre in size and it is better if it is half an acre to an acre or more. It should have an adequate supply of water either from springs, from surface run-off or from a stream, although one should be cautioned that ponds located on streams may have too *much* water for practical management. The flow of water in and out of the pond should be moderate enough so that it does not rush through the pond turning over the whole water area rapidly and does not fluctuate violently after each rainfall. It is also important that the water be clear both from the standpoint of silt pollution and chemical pollution. The pond should be reasonably deep, as much as possible of the area being six feet or more. Shallow edges should be avoided by grading the outside of the pond area to a two to one slope, that is three feet deep six feet out from the shore. The pond should be reasonably free of aquatic plants such as spatterdocks, water lilies, rushes, reeds, etc. Only the inlet end of the pond should be marshy if a large quantity of fish is to be produced.

Stocking of Pond With Fish

New ponds may be stocked with fish, usually in late summer. If the pond is an old one, it probably has some fish already in it. Generally speaking it is desirable to drain the pond and remove the present fish population and then re-stock with just what is wanted if the water is to be managed properly. Only by having a proper balance in species of fish that are desired, and in numbers of fish, can management be efficient. If a pond cannot be drained and its present fish supply removed, it is generally unwise to stock it with more fish. Unless you know rather accurately what the present fish population condition is it is almost impossible to make any desirable adjustment by a random stocking



This farm pond is utilized by cattle with the result that the bank is beginning to break down and the water is kept muddy. Good fishing is not compatible with this destructive use.

* Chief, Regional Biology Division, Soil Conservation Service, Upper Darby.

*By Frank C. Edminster**

of additional fish. The trouble with the fishing in old ponds is likely to be an over-abundance of small fish rather than a lack of fish. In these cases it is at once apparent that the addition of more small fish would simply aggravate the condition.

The combination of fish for stocking new ponds or recently drained ponds that seems to offer the greatest possibilities for successful production is largemouth black bass and bluegill sunfish. It may be desirable to vary this combination in certain localities and regions but generally speaking it should give good results in Pennsylvania. This is the combination that has proved most satisfactory in the work done by Swingle and Smith at the Alabama Experiment Station, who have been largely responsible



Newly completed farm pond structure. Observe the stock water device below the dam on the far side and the emergency flood water spillway in the foreground. The water edge of the newly finished dam has been rip-rapped with stone to prevent damage from wave action before the new grass seeding is well established.

for the development of improved farm pond management techniques in recent years.

Before considering the numbers of fish to be stocked it is necessary to decide how intensive the pond management is to be. This is essentially a decision as to whether you are going to simply let the pond produce whatever fish its natural fertility will permit or whether you are going to add fertilizer in order to produce a much larger crop. The principle here involved is exactly the same as you apply with your Victory garden. If you fertilize the soil you will get much larger crops. So it is with fertilizing the pond water. If you are going to fertilize the pond for the production of fish, the general recommendation is to stock 1500 fingerling bluegill sunfish and 100 fingerling largemouth



Before and after pictures of a gully that has been dammed and provided with a simple drop inlet structure to provide a delightful pond instead of an eyesore.



The pond banks close to the water should be kept in grass. Plantings of trees and shrubs should be kept ten feet or more back away from the water's edge. The island in this pond was built to provide a nesting place for ducks or geese.

black bass for each surface acre. If the pond is not to be fertilized, the stocking rate should be only one-quarter of these amounts.

Fertilizing the Pond

For a pond that is to be newly stocked the first application of fertilizer should be made about a week before the fish are introduced. This will give just about enough time for the fertilizer to start the production of the microscopic organisms that furnish the base of the food chain that ultimately results in large fish. The type of fertilizer to use will depend, of course, upon what can be obtained. The evidence indicates that it is preferable to use artificial fertilizer rather than organic. Since the ideal rate and type of fertilization will depend upon the individual characteristics of each pond—some waters are more fertile than others, just



After gully opposite has been dammed.

as some fields are more fertile than others—best results will ultimately be obtained by starting with a standard recommendation and then varying it in accordance with experience. A complete fertilizer formula providing from 4 to 8 per cent of nitrates. about 8 per cent of phosphate and 4 per cent of potash is suggested as a starter. If the water should be quite acid it would be desirable to add lime at the rate of about 15 pounds for each 100 pounds of fertilizer. This helps to make the fertilizer more effective. If a suitable, complete fertilizer is not available, an organic type may be used with the addition of superphosphate.

The fertilizer is applied at approximately monthly intervals during the warm months, from early May to September. If fish are stocked in the late summer, only one or two applications will be

(Continued on page 27)

CAVE EXPLORING



Rear Cavern in Crystal Cave.

EDITOR'S NOTE: In this article Dr. R. W. Stone, Pennsylvania Geological Survey, who furnished the interesting article on Pennsylvania Waterfalls some months ago, very interestingly and entertainingly explains the origin of caves, how to keep from becoming lost while exploring them, and lists some found in Pennsylvania. Later we hope to publish short individual accounts of each one.

In the meantime Charles E. Mohr, Director of Education, Academy of Natural Sciences of Philadelphia, has kindly consented to tell about the interesting wild creatures that frequent caves. Mr. Mohr is sometimes referred to as the "bat-man" because he has probably handled more of these creatures than any other person in the Country. His article will appear in July.

WHY do some of our boys, young and old, like to explore caves? Can it be an inheritance from primitive men, who lived in caves in Europe and other parts of the world? Fossil remains of these early people, the bones of the beasts they gnawed, pictures of extinct animals drawn on the walls of caves tell us who and what inhabited those regions many thousands of years ago. The bones of extinct animals have been found in caves in Pennsylvania but no trace has been found of primitive man.

Those early people were hunters and dragged their kill to the home cave. Why should not our hunters seek out little known caves and search them for traces of human occupation?

The chance of finding a new cave in Pennsylvania may be slim because about 125 have been reported to the Geological Survey, perhaps more caves than recorded in Virginia but less than in Kentucky. But there is a chance. Not so long ago a man on the lookout for scrap metal found a great mass of steel in a slag pile by noting where a rabbit disappeared; so a hunter following game to its lair might find a rabbit or woodchuck holed up in the entrance to a cave. Tradition has it that a cave near Waterside in Bedford County was found by tracking a bear to its hideout.

Warning. Beware.

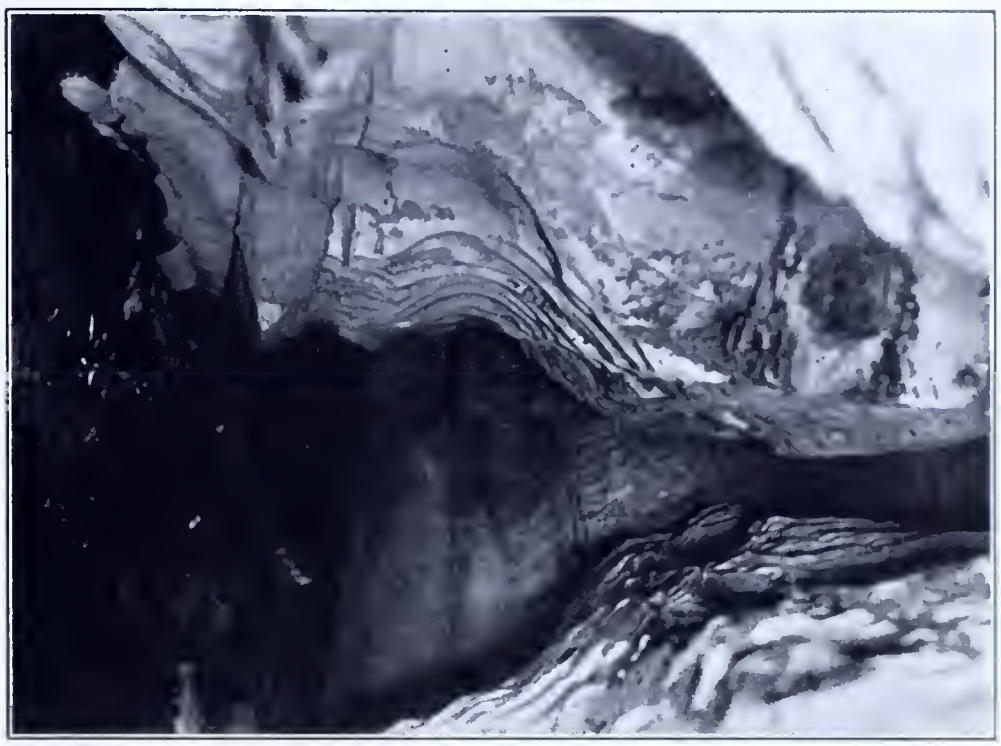
Right here, before you crawl into that hole, is a good place to speak a few words of caution. Don't explore a cave alone. It is best to wear old clothes that can be shed easily in case you get stuck, have at least one companion, and more than one candle, flash light, or carbide lamp, and matches in a waterproof case. Exploring a cave may be dangerous because you may get lost unless you leave a string, paper, chalk marks, or other signs to show the way out. Of course a Boy Scout could trace his own foot tracks, but suppose he had no light.

There is danger of falling through a hole in the floor, of slipping on a clay slope and skidding into a crack or a pool of water.



Garden of the Gods.

By R. W. Stone



Cave at Allensville.

Once I entered a cave in the woods, stepped on dry leaves just inside, and wham! I landed 20 feet down a slope because a wet, slippery plank was concealed under the leaves. Then too the next step may startle a mouse, rabbit, fox, or bear; what would you do if you were going in and the bear was coming out and there was not room for you to pass each other?

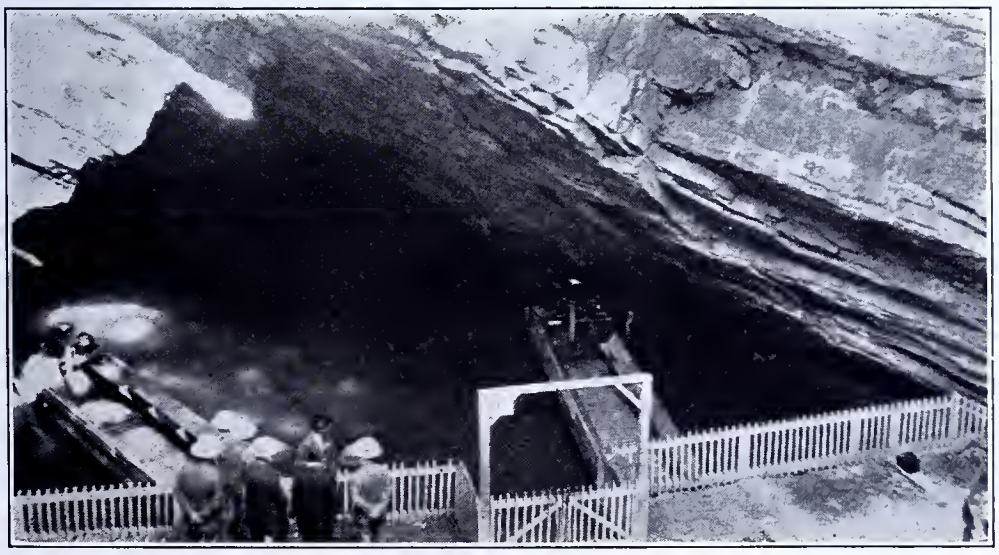
Also when exploring a cave it is well to leave some article outside the entrance; then if you do not return home, a searching party may find the clue that someone is in the cave. A story is told of a young couple in pioneer days who entered Penns Cave by the small hole into the dry upper part. Their torch was blown out and they were unable to light another. Taking no chances of falling into the deep water below, they stayed where they were over Christmas, according to the story, and were rescued on the third day when farm folk, returning from a hunting trip, discovered the restless and hungry horses tied at the cave entrance. In these days an automobile would be a more convenient marker than a horse; a small object, however, will suffice, as a hat, a piece of cloth tied to a twig, or paper weighted by a stone.

Spelunking, a hobby

Every man should have a hobby; every woman, too. For an unusual hobby, why not take up speleology, the science of caves, and become a spelunker and go spelunking or caving? A hobby of cave exploration may seem like taking risks, but we do that every time we cross a street in the business district of a city; it may even be dangerous at times, but there are compensations besides the mental thrill. One may discover an underground fairyland of cave formations, a deposit of bones of extinct animals covered by dripstone, or, less likely but very important, evidence of human occupation. A cave may have been a hiding place for marauding Indians or highwaymen in pioneer days; possibly a race of men antedating the mound builders lived here and sought shelter in caves.

That primitive man ever lived in Pennsylvania is not proved. The bones of long extinct animals, the giant sloth, saber-tooth tiger, mastodon, and a huge bear have been dug up in the clay floor of caves in this State, proving that tigers and elephant-like animals once lived here. So, if their contemporary, early man, lived here too, some trace may sometime be found in a cave. It remains for some spelunker or some hunter to find that trace.

Caving or the exploration of caves is not a sport or hobby that is likely to become a fad. It will interest only those who are willing to spend many hours at a stretch in old clothes, crawling, climbing, getting smeared with sticky clay, taking chances, seeking adventure. Claustrophobists should keep out. Some men with whom caving seemingly is irresistible, have their specialties; one that I know goes for underground photography, either cave formations or a companion rappelling into an abyss. Another has been banding bats that hibernate in caves, with the hope of learning where they go in summer; a third likes nothing so much as reading compass directions, measuring distances, and making a map of an undeveloped cave; others hunt for insects and other forms of life found in caves, study the great variety of forms made by dripstone, or ponder on the origin of caves.



Entrance to Penns Cave, showing boats.

Cave explorers organize

Cave explorers in Europe organized themselves into societies years ago and have their own periodicals. Organized "spelunking" is comparatively new in the United States, the first such group being the Speleological Society of the District of Columbia, founded in May 1939. Interest inspired by this group resulted in the organization of the National Speleological Society, Inc., January 1, 1941, with local branches called Grottoes.

The N. S. S. proposes to be a clearing house for information on caves. Its interests include the exploration of caves and detailed mapping of their passages, study of their origin, their fauna, their use, and the folklore connected with them. One of the

(Continued on page 24)

Seagulls Are Saviors



Franklin gulls flying, Mud Lake, Sand Lake National Wildlife Refuge, South Dakota.

By Col. H. W. Shoemaker

SEAGULLS SAVED RICKENBACKER AND PARTY, SEAGULLS SAVED THE MORMONS; THEY ALSO SAVED PENNSYLVANIA PIONEERS.

Photos U. S. Wildlife Service

AMERICANS were electrified by the story told by death-cheating Eddie Rickenbacker how seagulls came to their rubber boat, and furnished food and bait to keep the castaways alive until found by the rescue parties.

EARLIER on the page of history one hears how seagulls wiped out a plague of grasshoppers out to destroy the first crop planted by Mormon pioneers in Utah. Today the seagull is the sacred bird of the Latter-Day Saints and a handsome statue of a gull by the gifted sculptor, Mahonri Young, one of the prophet's sons, immortalized the life-saving efforts of the sea birds, a performance often alluded to by Altoona's prosperous colony. *Altoona Tribune.*

SEAGULLS of various kinds are found in all counties in Pennsylvania, where bodies of water of suitable size exist. Gulls are plentiful before and after storms on the Juniata as far as Tyrone, and on the Raystown beyond Bedford. They have been noted on the Susquehanna at Clearfield, and the Sinnemahoning at Emporium.

THEY visit the Altoona lakes, where they give a wild aspect to the scene, also inland streams tributary to Lake Erie and are said to visit the Allegheny. Mother Carey's chickens or stormy petrels, so called because they seem to walk the waves, like St. Peter, are frequent visitors to Lock Haven.

THE giant gulls or winter gulls, were eaten by pioneers and Indians, under the name of saltducks, having large luscious breasts. The salt or fishy flavor old-timers claimed cured various ailments of the stomach.

THE folk lores of the gulls in Pennsylvania is varied. As previously stated in this Column they are said to come up the streams when storms precipitated in the mountains are descending and accompany them out to sea.

THIS is a pretty thought and, holds good with all old rivermen. One curious legend has it that millerites, after their debacle on Hill island below Harrisburg, in 1843, having given away their property were faced with a starvation crisis, when gulls, pursued by a sudden swoop of a squadron of bald eagles, began dropping edible food fish from their beaks, which were eagerly picked up and cooked on the flat slabs of peak by the bewildered victims of the little Dutchman's deluding prophecy.

OVER a century earlier when Col. Thomas Cresap was calling for reinforcements in his war to uphold Lord Baltimore's claims, a military reconnoitering squad en route from Maryland became lost among the winds and turns of the turbulent Gunpowder river when a band of fishing gulls were attacked, also by bald eagles and disgorged enough

(Continued on page 21)



Monument to the gulls erected by the Mormons in Salt Lake City.

CAMERA STALKING

By Frank J. Floss

How to Get Deer Photographs Without A Telephoto Lens

MANY amateur sportsmen camera owners are laboring under the erroneous thought that to get good deer photographs they must have a camera equipped with a telephoto lens. For this reason they do not venture in quest of them during the lull between hunting seasons. Some of the finest deer photographs in the country are taken with a hand held camera using the lens it came equipped with. The telephoto, to the man that can afford one, is a tool that helps make a hard job easy. However, that does not mean that deer photos cannot be obtained without one. On the contrary, if you have skill enough to stalk deer when out hunting, and get within shooting range, you can just as skillfully get within camera distance by using the same deceptive methods.

Of course you must know the habits and peculiarities of the game you wish to photograph—what time of the day it does its feeding, where it does its feeding, what runways it uses in traveling to and from its feeding and watering places. To get close enough to get a reasonably large image of your subject on your film, you must use every trick that you use in hunting. For example, taking advantage of the direction of the wind, trees, boulders, and windfalls to hide your approach, etc., if you are experienced in these things, then don't wait any longer. Load up your camera with a good fast film and go after them. They won't come to you.

Stalking is just one of the many ways in which you can obtain deer photos. If you think you are not woodsman enough to use this method, don't let that stop you. Build yourself a blind and do your photographing from it. Find out where your game travels or feeds and set up your blind as close to these trails or feeding grounds as you can without arousing its fear of things that look out of place. Build the blind of materials that you have at hand, keeping it in theme with the surroundings. In other words if you build it of pine boughs make the outside of it resemble a pine tree in shape. If you build it of fallen timber make it appear as if it has fallen there naturally. If you do a good job of camouflaging you will be rewarded by having deer walk right up to your blind.

Photographing from a blind has many advantages. To mention a few, you can predetermine all your focusing distances beforehand by focusing on objects around you, thereby knowing if your deer comes up on your left by that little pine tree it is 20 feet from you. Or if it comes past you on the right, between you and that scrub oak, it is half the distance to the scrub oak or 25 feet, as the scrub oak is 50 feet away. Also by using a blind you can pick your background as we did in the photographs that accompany this article. As we had our blind set up at the edge of a woods that adjoined a meadow we used the sky for a background to make our deer stand out in the picture because it was late in the afternoon and we did not have any too much light to work with.

When after deer photographs there are other things besides stalking and blinds to consider. One is the protective coloring of the game you are after. Mother Nature is the originator of camouflage and as such she placed upon all her animals coats that would blend with the surroundings they inhabit. The deer is no exception. Thus the fawn with its spotted coat blends into the sunlight and shadows of its forest home. So does the mature deer, be it doe or buck. In summer their coats are reddish-brown on the upper parts, with the belly, throat and inside of legs whitish. In the winter this reddish-brown color turns grayish or grayish-brown. For this reason it is of the utmost importance that you watch your backgrounds so that your deer will stand out against it, otherwise if it is of the same coloring as the deer, the deer will blend right into it making it almost invisible in the finished print. To compensate for this wait until your deer stands out against the background. Don't click the shutter until the animal's light coat stands out against a dark background, or until, if it has a dark one, it stands out against a light background. In each instance you separate your main subject from the maize of trees, brush, and grass, as the case may be.



Photo by Frank J. Floss
Taken from a blind late in the afternoon.

Another way of being certain that your deer will stand out in your photo is throw your background out of focus. This is done by focusing accurately on your subject at

(Continued on page 23)



Photo by Frank J. Floss
If your blind is well camouflaged your deer might walk up and lie down in front of it as this one did.

Forestry in Wartime

(Continued from page 3)

public regulation covers only one phase of what is needed. Regulation is no panacea. The public should acquire all forest lands that the private owner cannot reasonably be expected to handle properly, and all the forest lands in which vital public interest, such as watershed protection, cannot be safeguarded in any other way. This should be an important part of our post-war reconstruction program.

"To this end the scope of public aid and cooperation with private owners should be broadened in such forms as protection against fire, insects, and disease; adjustment of taxation where income is deferred; education that gets down to cases in both the management of the forest and the marketing and use of its products; research to improve the basis for forest practices and utilization; credit adapted to the requirements of forestry and conditioned upon good management; and special assistance to farmers and other small owners.

Human Welfare, The Ultimate Objective

"Such a far-reaching program must have its justification in the welfare of the people. Concern as to the supply of wood for national defense and civilian use derives its significance from the fact that wood is indispensable in the life of the Nation. Positive action to maintain productivity of our forests will go far toward providing security for rural people throughout our forest regions. The blight of extensive tax delinquency and the scourge of rural slums so characteristic of depleted forest regions must not be allowed to continue or to spread.

"Traditionally, hunting, fishing, camping, and other forms of outdoor recreation have played an important part in the American way of life. And an abundance of pure water has contributed to American living standards in most of the forest regions. Conservation of these values is inherent in such a comprehensive forestry program.

"Thus human welfare and the American way of life are so inextricably bound up with the forests which clothe our mountain watersheds, afford us sanctuary for rest and recreation, and supply raw material for fuel, shelter, and industrial activity, that further needless forest destruction and mistreatment must be stopped.



Stand of mature Douglas fir on Cave Creek along Guler-Carson road, Skamania County. Forest Survey type 6; Douglas fire over 40" in d.b.h. The tree being measured is 61" in d.b.h. Columbia, N. F.

Requirements, Supplies, and Production of Forest Products for War Use

"To aid in the production of wood products for war, the Forest Service, working under agreement with the War Production Board, the Office of Price Administration, and other agencies, collected information, made surveys, and otherwise performed services dealing with requirements, supplies, and production of forest products for the war program.

"Pulp mills were canvassed to obtain data on production, consumption, and origin of pulpwood, its transportation, and related factors. A survey of manufacturing facilities and available supplies of white oak for shipbuilding was made in the Appalachian area. The requirements and supplies of veneer and plywood for airplane construction and other war uses were surveyed and a check was made on the diversion of veneer logs to other uses.

"Looking to the possibility of increasing supplies of tannin, the availability of chestnut wood and the capacity of extraction plants were investigated, Possible tannin production from Mangrove bark in Florida and 'canaigre' in the Southwest were explored. The accumulation of western hemlock bark for tannin was also considered.

"In an effort to develop substitutes for cork formerly imported from Mediterranean countries, the Forest Products Laboratory worked out a method of separating corky tissue from the bark of Douglas fir. Yields of pure granular cork ran as high as 43 percent from bark of Rocky Mountain origin.

"Determinations of military and civilian needs for hardwood and softwood lumber are being made periodically and statistics on production and stocks of forest products are being collected currently. Forest Service representatives were assigned to the War Production Board, Army Ordnance, and other agencies to help solve their wood-utilization problems, including the preparation of well-balanced specifications for various items. At the request of the Treasury Department,

the Forest Service is handling all inspection of logs procured for lend-lease shipments.

"Special attention has been given to the study of factors holding back production in 1942. Labor, transportation, machinery, tires, and weather were considered. The effect of ceiling prices on certain species of logs in the Pacific Northwest was studied.

"In view of the critical shortage of rubber, the Forest Service investigated the dependence of the forest industries on motor transportation. One-third of the lumber, four-fifths of the logs and pulpwood, and practically all of the naval stores produced in the United States are moved on rubber. Transportation authorities were advised that a 25 percent reduction in the use of rubber by the forest industries could be effected by economy and close integration in the use of all transportation facilities.

"As a result of salvage work undertaken by the Forest Service following the New England hurricane of 1938, some 687,000,000 board feet of timber, much of which might otherwise have burned, rotted, or been destroyed by insects, is being made available when war-industry demands are heavy. The salvage program benefited nearly 13,000 farmers and other woodland owners.

"With definite shortages of coal and fuel oil for domestic use foreshadowed in some areas, fuel users are being urged to substitute wood for coal and oil wherever feasible. The Forest Service encouraged more widespread cutting of fuel on the national forests, from which tens of thousands of rural people obtain wood annually. It also cooperated with the Extension Service and State forestry agencies in campaigns to stimulate the cutting of cordwood on private lands and to direct such cutting along lines of good forestry.

"With 1942 requirements of naval stores estimated at 58 percent above 1941 production, the Naval Stores Conservation Program administered by the Forest Service in cooperation with the Agricultural Adjustment Agency assumed new significance. Special effort was made to increase production through efficient operating methods and improved fire protection. In some cases the Forest Service acted as liaison agent, enabling small farmers to obtain Farm Security Administration loans so that they could bring into naval stores production stands of timber that had not previously been worked.

"One promising development grew out of the experiments of the Southern Forest Experiment Station with acid stimulation of gum yield. It was found that a solution of sulphuric acid applied to freshly chipped slash pine 'faces' increased the yield of gum as much as 60 percent. Large-scale testing and demonstration of the use of the technique were organized. Research was greatly intensified in the hope of finding a treatment effective for longleaf as well as slash pine.

Aircraft Spruce From Alaska

"The war has created a critical need for Sitka spruce for the construction of airplanes. Available supplies of spruce of airplane quality in the Pacific Northwest are insufficient to maintain the production needed.

"The Forest Service, at the request of the War Production Board, surveyed the possibilities of drawing on the spruce stands of

(Continued on page 20)



Sheep grazing.



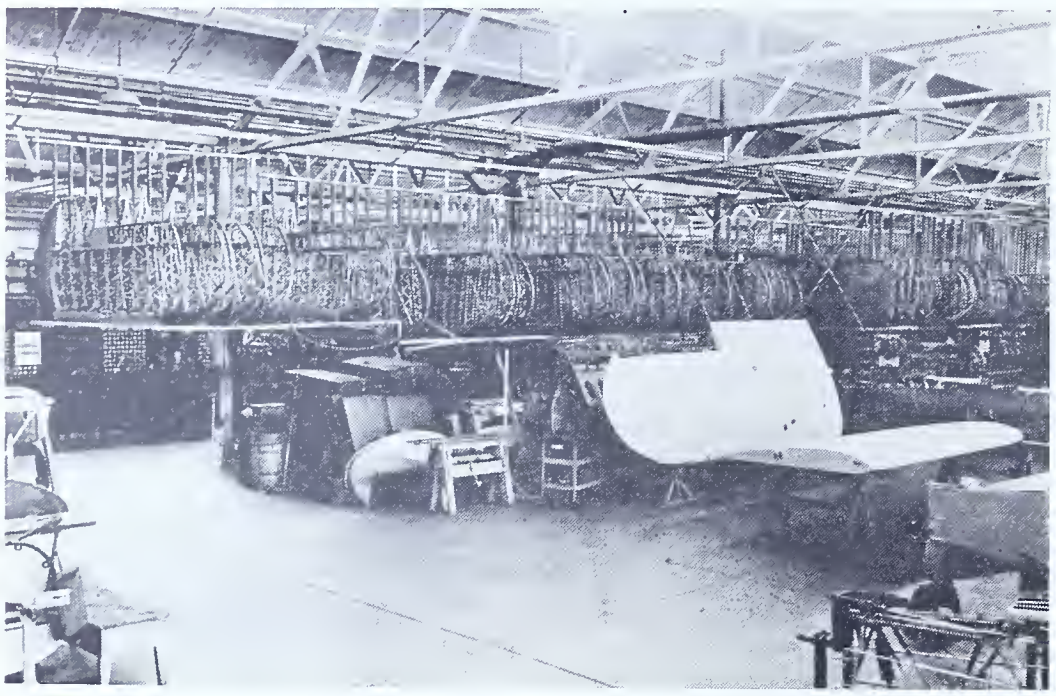
Timber Management, Mills & Milling, Montana Neils Brothers sawmill, Libby, Montana. A thriving community dependent on lumber and mines. Some National Forest timber available in the vicinity.



Tractor logging.

Forestry in Wartime

(Continued from page 19)



Photo—Waco Aircraft Co.

Making airplane wings in the Waco Aircraft Company factory at Troy, Ohio. Note use of spruce spars, spruce ribs and stringers in the frames of the wings.

the Tongass National Forest of southeastern Alaska, and on June 5 the Secretary of Agriculture approved an agreement between the Commodity Credit Corporation and the Forest Service under which the Service, financed by the Corporation, is undertaking a large-scale enterprise for the extraction of Alaskan timber. A goal of 100 million board feet of high-grade spruce logs per year has been set for the duration. The logging is to be done by independent contractors and the logs will be rafted some 900 miles for manufacture by mills in the United States.

New Sources of Rubber

"When Japanese conquest and shipping difficulties shut off the supply of imported rubber, guayule, a desert plant native to parts of northern Mexico and to the Big Bend of Texas, was looked to as one of the most promising domestic sources of natural rubber. An act of March 5, 1942, authorized the Department to acquire the properties and processes of the Intercontinental Rubber Co. and expand production of guayule and other rubber-bearing plants in the Western Hemisphere. Production phases of the emergency rubber project inaugurated under this act were assigned to the Forest Service, and essential technical investigations to the Bureau of Plant Industry and the Bureau of Agricultural Chemistry and Engineering.

"The first urgent task was to increase nursery production of guayule seedlings. It was a race against time, as the seed had to be in the ground before the start of the dry season. In a little more than 2 months, 530 acres of nursery beds were soil-tested and prepared, and the treating and sowing of 21,000 pounds of cleaned seed was completed. The job required, in addition to the leasing of nursery sites, the installation of an overhead irrigation system with 94 miles of pipe, the laying of 1,014 miles of duckboard tracks for machinery between nursery beds, and the construction of a seed-treating plant and housing for 1,000 workers.

"In addition to the nursery sowing, 870 acres of field planting was completed in April, with seedlings acquired from the company. The seed acquired from the Intercontinental Rubber Co. will provide enough seedling plants for about 32,000 acres of field plantations in the winter of 1942-3. Nearly 100 indicator plots were set out by the Bureau of Plant Industry in Southwestern States and in Mexico to determine areas suitable for guayule cultivation. Land in suitable areas will be leased for this winter's field planting.

"Some rubber can be obtained from guayule within a year after field planting but the yield increases annually for a number of years. The most economical harvest usually can be made 4 years after field planting when a yield of from 1,200 to 1,500 pounds of rubber per acre has been obtained. However, in order to get early production, field operations are being planned on a 2-year rotation.

"In the hope of developing other more immediate sources of natural rubber, the Forest Service investigated the supply of native guayule in southwestern Texas, but found very little. About 540 pounds of Russian dandelion (Taraxacum kok-saghyz) seed obtained from Russia by the Bureau of Plant Industry were planted at agricultural experiment stations in 20 Northern States for adaptability tests and by the Forest Service in its nurseries for seed production. This plant may be harvested at the end of the first growing season. It is understood to be cultivated annually on about 2 million acres in Russia.

New and Improved Uses of Wood for War

"Work of the Forest Products Laboratory is now focused almost entirely on war problems—finding wood substitutes for scarce materials, adapting natural or processed wood to military uses, and directly promoting efficient wood use. Most of this work was initiated as part of the defense program prior to the attack at Pearl Harbor. In brief it consisted of furnishing the Army, Navy and the aircraft industry with extensive data on the design and fabrication of wooden airplane parts, and on the cutting, selection, seasoning, and gluing of plywood and lumber; assisting the Aeronautical Board in preparing aircraft specifications covering such items as structural lumber, propeller lumber, plywood, kiln drying and cold-setting, resin glues; developing a means of fabricating laminated keels, frames, and other structural members for small naval craft; redesigning boxes and crates for shipping fighting weapons and material such as tanks, field artillery, etc., and for packing cheese, eggs, condensed milk, and other foods for lend-lease shipment; developing a new type of interior paint which retards the spread of fire in wood construction.

"A new substance obtained from wood lignin was found to improve the antiknock characteristics of gasoline to a greater extent than some of the materials now in use. The adaptation of the laboratory's wood plastic for storage-battery cases and tops in place of hard rubber was worked out in cooperation with a large manufacturer.

"Studies of automobile house trailers, in demand where new industries have been established, showed that 90 percent of the metal used in them could be replaced by wood. A preliminary analysis was made to determine the possibility of employing wood or resin-impregnated paper in the construction of oil pipe lines in place of metal. A possible substitute for importetd hemp and sisal was sought by investigation of the yucca group of desert plants in the Southwest.

Services to the Military

"About 500,000 acres of national-forest land in seven States, Alaska and Puerto Rico have been transferred to the War and Navy Departments or made available through cooperative agreements for military reservations, artillery ranges, maneuver areas, proving grounds, etc. Forest Service equipment and repair shops in several areas are aiding military operations.

"The Federal and State networks of forest lookout stations now constitute part of the Army's far-flung aircraft warning system for the protection of our coastal areas. Prior to the Pearl Harbor attack, the Forest Service had cooperated with the Air Defense Command in aircraft detection tests and in the development of all-over plans. By June 30 more than 450 lookout stations were manned 24 hours a day by trained observers. Forest Service communication facilities will be instantly integrated with military systems in the event any national-forest territory becomes an actual theater of war."

Seagulls as Saviors

(Continued from page 16)

fish to give the squad a good supper and the courage to push on to the Susquehanna.

ONE of the wildest sections of western Pennsylvania in the last century was Sandy Creek valley in Clearfield county, where pioneers died of starvation and scurvy, within a hundred miles of prosperous settlements.

"OUR old folks were sorely pressed but kept body and soul together with wild potatoes," said the late Comrade John W. Holopeter of Civil war fame, at Rockton, several years ago.

"IN one case," he said, "seagulls saved a whole family and after that not one person in that region would shoot a gull no more than would a Mormon for the same reason. Ammunition was scarce because of the prohibition of shells for the War of 1812.

"TO kill game was out. One only could get cartridges to guard against a prowling Indian a panther or a wolf. In most cases to get shells one had to invent the Indian. One pioneer 'old Mr. Shaffer' was lacking shells



Gulls resting along shore during smelt run. Cowlitz R., at Kelso, Wash.



Glaucous gulls following harrow, feeding on worms, etc. Near Seattle, Wash.

sulphur, saltpetre, salt and fat meat, determined to take his horse and ride to the trading post at Saltsburg in Indiana county, to lay in a supply of the commodities if possible.

"SNOWS fell, and he could not get back through the drifts. Meanwhile his family at home were reduced to desperate straits. The family dogs became so hungry they ran away. Wolves howled around the cabin at night. Panthers screamed and roared. All were there to harass them, including three destitute Indian women, who came late one night and refused to leave, and as ravenous as wolves reduced the slender and unbalanced larder to a minimum.

"A daughter of the family, Sylvania Shaffer, aged 16, was so affected with itch and scurvy she looked like a smallpox patient. Once the belle of the Slashings, she wandered the forest trails, a prey to hunger, seeing all manner of game, which she had no means to shoot, keeping the household, including the ravenous and ailing squaws alive on wild potatoes.

"SANDY Creek was full of trout but the girl had no means to catch them. Then suddenly a cloud of seagulls appeared, probably from Lake Erie, hungry like the settlers, and began snapping up the trout, but as each gull became gorged. it had to lose a fish or two, until the girl's apron was filled with the speckled beauties.

"WHEN she had all she could carry she hurried home and the tasty mess was soon roasting on the coals of the hearth. This square meal revived everybody and several days later when old Mr. Shaffer arrived with his supplies, he found the family in tolerable condition. When all felt stronger the squaws helped to build a sweat house in the Indian style in which the scurvy sufferers sat and by summer Sylvania's complexion was again the envy of Sandy Creek valley and she married well that autumn.

"FOR years the cold winter of 1814-1815 was known to the pioneers of Sandy Creek as the "winter of the gulls," according to well-informed and interesting Comrade Holopeter.



Photo by U. S. Fish & Wildlife Service
Sea gulls feeding in the wake of the "Sea Otter" boat.

Sporting Ammunition and War

(Continued from page 7)



Photo by T. G. Post

Mrs. G. G. Post, left, and Mrs. Hope Larish, Benton, Pa., with splendid bucks taken in 1933. Both are ardent hunters and expert shots.

There are areas in the United States where wildlife surplusses are causing trouble now, and if no harvesting of the annual crop should be allowed, except by poachers, for a year or two the depredations would certainly become serious. This is not an idle statement, as practically every wildlife administrator in the country can testify.

There are three principal schools of thought on this question. There is one very large group in this country who believes that there should be no hunting or fishing at all for the duration, and that everything should be "saved until the boys return from the front." In this group are, of course, thousands of citizens who have no sympathy at all with hunting or fishing.

There is another large segment of public opinion which holds that all restrictions on hunting and fishing "should be removed for the duration" so that everyone may take game and fish for food whenever the opportunity presents itself.

Fortunately between these two extremes there is a much larger group which believes that the sensible thing is to maintain regulated hunting and fishing opportunities, one of the things in our American way of life we are fighting to preserve.

Incidentally, there are a lot of our citizens who think that if we have wildlife surplusses of any character official agencies should hire employees to slaughter the surplus and turn the meat into central agencies for distribution.

All of these angles were discussed during the conference in Denver. It was surprising to note the unanimity of opinion which resulted. The feeling was strongly expressed that where wildlife surplusses occur the removal thereof should not be undertaken by official agencies, except on rare occasions such as, for example, the surplus elk which were taken from Yellowstone Park this past winter. Public opinion strongly supports the steps taken by the states of South Dakota and Iowa recently when, for the first time in the history of modern conservation, late winter and early spring seasons were declared on pheasants in order to crop off the surplus birds quickly. In other words, if a surplus occurs the American way to handle it under normal conditions is to utilize that surplus for recreational purposes, not to look upon it merely as so many tons of meat to be slaughtered at public expense.

Recreational Value Looms Bigger

Delegates to this convention will be interested to know that, immediately after all of these facts had been presented to the WPB in Washington, Dr. Gabrielson called another conference in New York primarily to inform the various publishing agencies which reach the outdoor loving people of the Nation. The Izaak Walton League was one of the agencies there represented, as were the State Wildlife Administrators.



Elmer L. Detrick, E. Stroudsburg, killed this 115 pounder at White Star Camp, Pike County, last season.

At the conference with the WPB, as well as in New York, it developed that those directly concerned in planning war production schedules are now beginning to realize more and more the need for recreational releases from the daily grind, and that *the wildlife of the Nation actually has far greater sociological values than commonly believed.* We have read much about absenteeism from the mills and factories of the Nation in recent weeks. It apparently is becoming more and more evident that any effort to keep men at the machines for six or seven days a week will actually retard war production instead of speeding it up, that human machinery will break down under continued strain, and that a sensible amount of wholesome outdoor recreation is one of the surest ways to keep our productive capacity at the highest possible levels.

How Much Ammunition Do We Need?

As already indicated, there is no other means for maintaining the state conservation machinery of this country than through hunting and fishing licenses. Most states operate on a current income basis, and cannot operate their wildlife management activities for a year without additional income.* To let these agencies be destroyed through starvation would be absolutely contrary to the principles for which the Izaak Walton League has fought so long and valiantly.

The question immediately before us is how much civilian ammunition do we really need —and without interfering with the war effort? Authorities tell us that there is no shortage of powder, that bins full of unused shot are on hand, that shotgun shells can now be made with a light steel base instead of brass, and that the productive capacity for such materials is now so enormous that there would be no serious interference with the war effort. Some problems, however, might arise in connection with the production of the necessary big game rifle cartridges because the ordinary military bullet is not favored for that purpose, and such cartridges require brass.

But what about the black market? It is confidently believed that those who have been hoarding ammunition for the purpose of profiteering will begin disgorging it immediately when it becomes known that the Federal authorities have found it feasible to permit the production of a limited supply of civilian ammunition this year. The quickest way to kick the bottom out of the black market will be to let it be known that those who really need ammunition will be able to get it.

At the present time both shotgun shells and .22 cartridges may be purchased for the purpose of controlling predators. I am sorry to report that in some instances persons who profess to be patriotic citizens are buying ammunition under the guise of using it to control predators, but in reality plan to use

(Continued on page 26)

* Fortunately The Pennsylvania Game Commission is in better position than many others.

The Log of Rattlesnake Shack

(Continued from page 11)

and sports its flowers as early in some years as the 23rd of the month.

We might go on to tell of the many "weekend pioneers" among our friends who helped make the Shack area a place of interest in the early days. We cannot resist a mention of Charlie Kean, who in addition to joining our parties, always had an automobile for our use when we were at a loss for transportation; and Cy Campbell whose ingenuity helped develop essential landscape changes around camp and who took an active part in our hunting maneuvers. Wm. Gormley, Fred Trimble, Marty Myers, and Harry Kirk whom we have mentioned before, were among these early comrades. Many who came later were active in our hunting parties, insect collecting trips, botanizing excursions, and bird studies, with plenty of hard work and exercise in between.

However, as time and space forbid further accounts we offer a word concerning the broad tracts of the Bayard Estate comprising approximately 5000 acres, upon the eastern frontier of which Rattlesnake Shack is located. Here today, much as in the olden time are vast mountain acres, timber and the bottom fields of growing crops that represent the industry of the local Bayard family. Records indicate that the original member of this family to settle in Clarks Valley arrived sometime prior to 1830. This was Henry M. Bayard who came from Wilmington, Delaware, to take part in the early iron industry of Dauphin County. He acquired about that time the Victoria furnace, in what was then part of Rush township, about 6 miles east of the town of Dauphin.



Photo by Marty Myers

Beaver cutting below camp.

The picturesque remains of this furnace may be seen to this day.

The late Charles M. Bayard, grandson of Henry M. was our first acquaintance in this family. During 1928 he permitted our use of the camp site upon which so many happy days have been spent. This gentleman who was sympathetic with our love for the out of doors, often stopped at the Shack to discuss our activities. He was a true sportsman and his "coon" and fox hounds were tangible evidence of his love for the chase. Mrs. Lucy (Bayard) Paschall, who now looks after the interests of the estate, has continued to accept us as tenants, and our relations with all members of this fine family have kindled in our hearts the same devotion to Clarks Valley that has abided with the Bayards for over one hundred years.

Camera Stalking

(Continued from page 17)

your camera's widest aperture, making everything that is behind the subject just a blur of blacks and whites. Of course this method should only be used as a last resource, when you are confronted with a background that your deer will not stand out against. It is always best to photograph them in their natural surroundings.

If after you process your negatives from that first trip afield you find that you have taken your subject at too great a distance from your camera, and have only a small image on your film, don't throw that negative away! Mask off that portion of the negative with the object on it, and enlarge it. In this way you can bring your subject up from six to eight times its original size, depending on the degree of enlargement and the film you are using.

The one paramount factor that enables a wildlife photographer to get photographs of his game is that he never becomes discouraged no matter how many times he has to go after it. So if your first attempts fail, don't be discouraged, try again and again, until you get the picture you're after. Many a time I've gone to a blind at 6:00 A.M. so that it would be dark when I entered it and my game would not know that I was in it. And just when it would begin to get a little light in the East, along would come my prize photograph and walk right past my blind at about twenty feet, with the light so poor that I could not photograph it, even if I could see it in the finder. Then I'd sit for hours without seeing a sign or any other game that I could photograph. And mind you that hasn't happened one time, it has happened many times. But that's what makes wildlife photography so interesting; you don't know when you'll get that photograph. You may get it in one hour, or one day, or one week; then again it may take a month before you get it. But nevertheless whenever you do, you can rest assured that it will be worth all the time and effort you put into it.



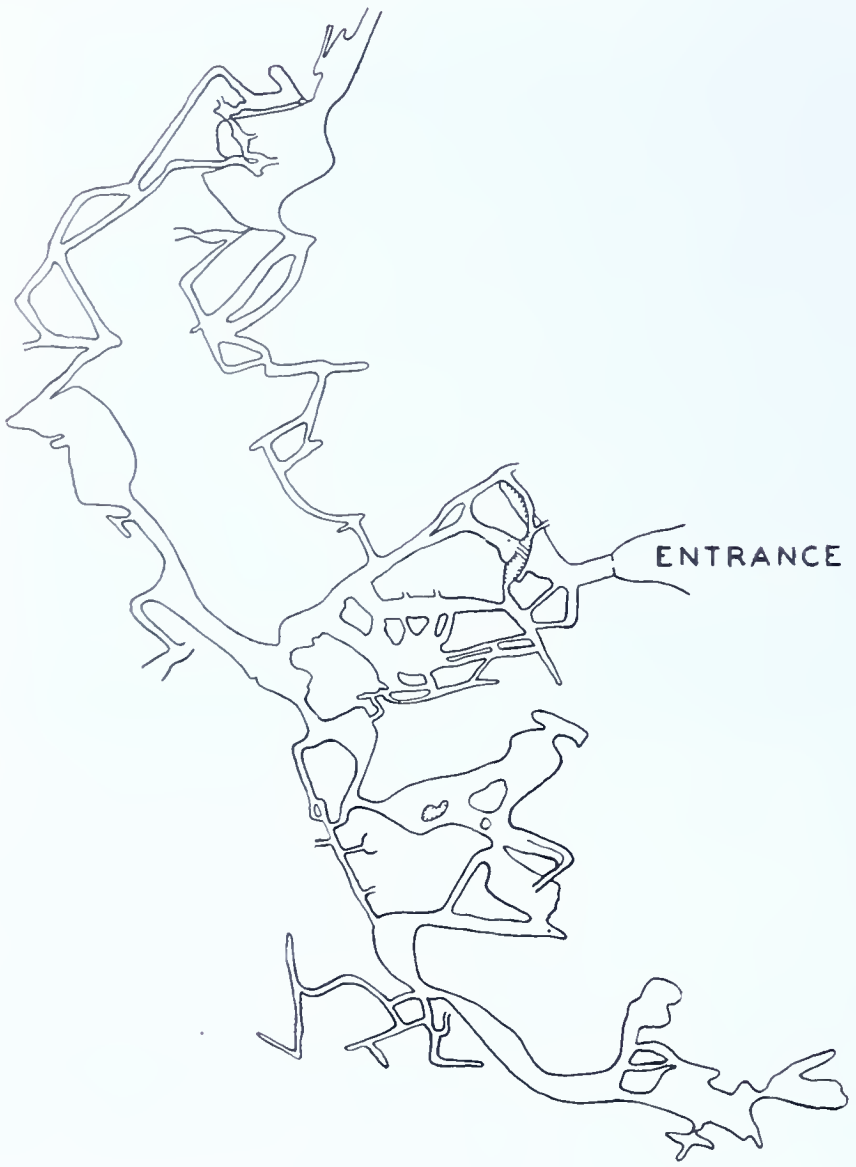
Photo by E. L. Fenstermaker

Mr. Fenstermaker remarks of the above photo: "This Cumberland County buck had some unusual incidents in life and death. In life during his last year he was handicapped by a freak antler which had grown downward tight against the right side of his head. In death about noon the first day of the 1942 season an unknown party shot off his tail (except a bit of skin which held it in place). This happened on the other side of the mountain from where we were, but the shots were plainly heard, and in less time than it takes to tell that buck came charging head down at full speed straight at my partner, Mr. Ray Geib, who plugged him between the eyes with the first shot. (The bullet mark can be seen)."

The State of Illinois recently established a conservation training school for the purpose of instructing its law enforcement officers and conducting a program of education in conservation subjects designed for school boys and girls of that State. The school is located on a 27-acre site having a shoreline of two beautiful lakes. The great opportunity to utilize facilities in a field of natural resources is recognized by conservation leaders and sportsmen's organization officials in that State and they have lauded the program highly.

Cave Exploring

(Continued from page 15)



Name	Location
ADAMS COUNTY	
Lewis (X)	Corner of Adams, Cumberland and Franklin Counties
Unnamed (X)	Bittinger
ARMSTRONG COUNTY	
Heneman	3 miles west of Worthington
BEDFORD COUNTY	
Hipple (0)	Waterside
Mt. Dallas	1 mile west of Everett
Saltpeter (X)	Near Martin Hill south of Rainsburg
Taylor	New Paris
Wonderland (0)	Manns Choice
BERKS COUNTY	
Bally	1 mile northeast of Bally
Crystal (0)	5 miles west of Kutztown
Dietrich	1 mile northwest of Evansville
Dragon	¾ mile east of Virginville
Dreis or Six Mile House (X)	1 mile north of Temple
Dreibelbis	1 mile southwest of Virginville
Greshville (X)	Greshville
Hobo	State Hospital grounds, Wernersville
Merkle (X)	1¼ miles northwest of Moselem Springs
Mohrsville or Phillips	1½ miles west of Mohrsville
Montello	¼ mile northwest of Montello
Morgan (X)	Morgantown
Noecker	1¼ miles southwest of West Leesport
Onyx	2 miles west of Virginville
Phillips (X)	2½ miles west of Dauberville
Pinnacle	3 miles north of Lenhartsville
Schofer	2 miles northwest of Kutztown
Sinking Spring	Sinking Spring
Slate (X)	3¼ miles northeast of Robesonia
South Temple	Quarry at South Temple
Stone (X)	1 mile north of Earlville
Tuckerton	Quarry at Tuckerton
Weiser (X)	West of Weiser State Park
West Reading	West Reading
BLAIR COUNTY	
Arch Spring	Arch Spring
Gromiller	3 miles east of Frankstown
Hollidaysburg	East end of Hollidaysburg
Logans or Indian (X)	Bellwood
Keyhole (X)	Roaring Springs
BUCKS COUNTY	
Deans (X)	2 miles northwest of Point Pleasant
Durham	¾ mile south of Riegelsville
CAMERON COUNTY	
Wychel (X)	1 mile east of Sinnemahoning
CENTRE COUNTY	
Brukerhoff	2½ miles east of Old Fort
Fry (X)	Rock Spring
Madisonburg	Dietrich farm, Madisonburg
Penn's (0)	4½ miles east of Centre Hall
Rebersburg	2 miles east of Rebersburg
Rossman	1½ miles west of Millheim
Shalter farm (X)	½ mile west of Penn's Cave
Stover	2 miles east of Coburn
Veiled Lady	2½ miles west of Madisonburg
Woodward (0)	2 miles southwest of Woodward
CLINTON COUNTY	
Eastville (X)	1 mile from Eastville, Greene Twp.
Unnamed (X)	2 miles northwest of Hammersley Fork
CUMBERLAND COUNTY	
Boiling Springs (3)	Boiling Springs
Bowmansdale	West end of Bowmansdale
Carnegie or Mower	Cleversburg
Conodoguinet	1½ miles north of Carlisle
Huber Coy farm (2)	Cleversburg
Lemoyne	Lemoyne
Hummel	Mechanicsburg
Forney	Walnut Bottom
Parker	1 mile south of Newville
Sharp (X)	2½ miles southwest of Newville
Sinkhole	Cleversburg
DAUPHIN COUNTY	
Brownstone	1 mile east of Hummelstown
Indian Echo (0)	Hummelstown
Thrush (X)	Enhaut
DELAWARE COUNTY	
Castle Rock (X)	2 miles west of Newtown Square
FAYETTE COUNTY	
Barton	4½ miles west of Elliottsville
Casparis	2 miles south of Connellsville
Dulany	7 miles south of Uniontown
FRANKLIN COUNTY	
Baker (0)	1 mile south of Williamson
Goods	1½ miles southwest of Quinsonia station
Needy	2½ miles southeast of Waynesboro
Nicewander (X)	1½ miles north from St. Thomas
Reese	2 miles southwest of Fort Loudon
HUNTINGDON COUNTY	
Fleming (X)	Near Shade Gap
Flood or Stauffer (X)	Between Neelyton and Nossville
Hall	3 miles west of Huntingdon
Historic Indian (0)	Franklinville
Kooken farm	2 miles NNW of Water Street
Lincoln (0)	3½ miles west of Huntingdon
Sharpsburg (X)	Sharpsburg
Tippery	6,000 feet west of Water Street
Unnamed (X)	Near Juniata College, Huntingdon
INDIANA COUNTY	
Strangford (X)	2 miles east of Blairsville
JEFFERSON COUNTY	
Unnamed (X)	Cortez
JUNIATA COUNTY	
Deils or Rock Cellar (X)	Near Terre Hill 1½ miles north of Thompsontown
LANCASTER COUNTY	
Gable	1½ miles northeast of Millersville
Mt. Joy (2)	1 mile north of Mt. Joy
Pequea Church (3)	2½ miles north of Pequea
Refton	1 mile northwest of Refton
Wind or Cold	1 mile south of York Furnace Station
LEHIGH COUNTY	
Helfrich	1½ miles north of Allentown
LYCOMING COUNTY	
Blessing Mountain Wells	2½ miles north of Warrensville
Dougherty	1¼ miles west of Oval
Eiswert	1 mile north of Oriole
MIFFLIN COUNTY	
Aitkin (2)	1 mile northeast of Siglerville
Alexander (0)	3½ miles northeast of Reedsville
Allensville	Allensville
Goss (X)	Maitland

Hays farm .....Barryville
Johnson (2) .....McVeytown
Milroy (X) .....Milroy
Reedsville or Taylor (X) .....1 mile north of Reedsville
Rupert .....2 miles northwest of McVeytown
Seawra (0) .....3 miles north of Alfarata

MONROE COUNTY

Hartman .....1 mile northeast of Stormville

MONTOUR COUNTY

Narlhood .....1 mile southeast of Limestoneville

NORTHAMPTON COUNTY

Calipso (X) .....South of Calipso Id., Bethlehem
Carpenter .....1 mile northwest of Raubsville
Heffelfinger (2) (X) .....Near Northampton
Indian .....4½ miles north of Easton
Lost (0) .....Hellertown
Redington .....5 miles east of Bethlehem
Wolf .....½ mile east of Seemsville

PERRY COUNTY

Girtys .....5 miles south of Liverpool
Wentz (X) .....¾ mile south of Blain
Womers .....Elliottsburg

SNYDER COUNTY

Boyer .....Mt. Pleasant Mills
Haas .....2½ miles east of Richfield

SOMERSET COUNTY

Shafer Run .....2.8 miles NNW of Bakersville

UNION COUNTY

Dales .....3 miles northwest of Lewisburg
Winfield .....½ mile south of Winfield

WESTMORELAND COUNTY

Bear (X) .....1½ miles east of Hillside
Rollys (X) .....1 mile north of Laurelville
Sinkhole .....Chestnut Ridge, east of Hillside

YORK COUNTY

Lisburn .....Lisburn
North York .....1 mile north of North York

(O) Open to public for a fee.
(X) Description wanted.

objects of the Society is to catalogue all known caves. More than 120 caves in Pennsylvania have been reported to N. S. S. and the latitude and longitude given of those whose exact location is known. A list of these caves is appended. The names followed by (O) are open to the public for an admission fee. The Geological Survey knows only the approximate location of those marked (X) and would be glad to have descriptions of them. A few of these caves may be too small to enter, the entrance may have been closed, or the cave may have been destroyed by quarrying operations. Information about them is desired, and when on file may save some "spelunker" a trip or send him direct to the most likely place to find what he seeks, whether it be spiders, helictites, or an ancient arrowhead.

Pennsylvania Caves, a book of 143 pages and 68 illustrations, can be obtained from Division of Documents, Department of Property & Supplies, Harrisburg, Pa., for 25 cents a copy. For a summary of what is in that book, read on.

Caves are in limestone

Maybe you are asking "Where are these caves?" Well, there are no caves in the northern tier of counties because they have no thick limestone beds, and I know of less than ten caves west of a line through Bellefonte, Altoona, and Bedford, so that puts most of our caves in the central and southeastern part of the State. Most of these caves are in two main belts. One belt is the great limestone valley that extends from Easton, through Allentown, Reading, and Harrisburg to Carlisle and Chambersburg; and the other belt is in the limestone valleys from Sunbury west to State College and south to Bedford. Four caves in the Lehigh-Lebanon-Cumberland valley, and eight caves in the central area, a total of 12 caves, are open for business part of the year. If you live in the southeast quarter of the State there is a pay cave within 50 miles.

These caves, in the order in which you find them in driving along the great valley are first, Lost Cave at Hellertown south of Bethlehem. This cave has an underground or "lost" stream. Next comes Crystal Cave near Kutztown, which was discovered by men quarrying limestone way back in 1871. It was opened to the public 70 years ago this summer, and so probably has been visited by more people than any other cave in the State. Only a few miles away, near Virginville, is Onyx Cave, which was uncovered by a quarry blast in 1872. It was opened to visitors in 1923, but has been closed for several years. Then there is Indian Echo Cave at Hummelstown, near Harrisburg. No Indian and no echo are seen or heard here, so far as I know, but the guide does show you where a white man who was mad at people, made his home in the cave for 19 years. Farther west in this valley is Baker Cavern at Williamson, on a road between Chambersburg and Mercersburg. This was opened in July 1932. It is about 150 miles from Lost Cave to Baker Cavern at the other end of the valley.

BUY WAR BONDS and STAMPS

SAVE KITCHEN FATS

In the central part of the State, however, a circuit journey of 125 miles from Lewistown, Huntingdon, Tyrone, or Bellefonte will include six pay caves and back home again. Of course you could not see so many caves in one day, but that would be a wonderful trip to make in two or three days. On such a trip, if you started at Lewistown, you would first see Alexander Cavern near Reedsville. This cave is entered by a long staircase which brings you deep below the surface into a fairyland of strange stone formations glistening like crystals. Part of the cave can be seen by riding in a boat on an underground river. Then you would go to Penns Cave near Centre Hall. The only way to go through this cave is by boat. Indian legends connected with this cave, with Veiled Lady Cave near by, and with Woodward Cave, have been published by Col. H. W. Shoemaker, State Archivist. From Woodward Cave you would go to Historic Indian Cave on the bank of Spruce Creek at Franklinville and see there the many Indian relics that were dug out of the clay floor of this cave, and the carved stone tablet found in the cave which tells of the death and burial of an Indian chief.

From Spruce Creek you would go to Water Street and Alexandria and come to Lincoln Caverns, whose entrance is right beside the Wm. Penn Highway. This cave was discovered in blasting away a rock cliff to make a new place for the road.

The other pay caves in the State are Seawra Cave near Lewistown, and Hipple Cave and Wonderland Caverns in Bedford County.

The caves yet to be explored and described are well scattered. Berks County has at least 8. There should be some caves in Lebanon County; only one has been reported and that is closed. Several are waiting in Huntingdon, Mifflin, and Westmoreland Counties. Probably there are several, maybe many, as yet undiscovered caves in Centre, Franklin, Mifflin, and other counties where limestone is abundant.

Although limestone caves are lacking in Cameron, Clinton, and other high-plateau areas, caves or wells are reported, as on Blessing Mountain north of Warrensville, Lycoming County, and in the vicinity of Sinnemahoning, and Hammersley Fork, in the northwest corner of Clinton County. These are crevices opened along joints in massive sandstone formation by settling or slipping of the block near an outcrop, and by horizontal movement on a bedding plane that may roof over a vertical opening.

The book on Pennsylvania Caves devotes 9 pages to the origin of these subterranean openings, how the rock was dissolved by ground water, the ground water level was lowered and the cavities filled with air, and how the dripstone forms in the caves. That is another story. You can read it in my book, which is in many public libraries throughout the State. Charles E. Mohr, "the bat man," contributed the concluding pages on Cave Fauna. He will tell that story in the next issue of GAME NEWS.

Sporting Ammunition and War

(Continued from page 22)



Buck killed in Tioga County by Walter S. Groff, Bowmansville, Pa., first day of the 1942 season.

it for the coming hunting season. This tendency will also disappear if it becomes known that ammunition may be obtained without cheating.

Sharing Supplies on Hand

One of the questions that has concerned all of us is how to handle the distribution of any ammunition that is made available. The authorities who have studied the matter now believe that the simplest way is to issue coupons with hunting licenses and Federal Duck Stamps, but a problem for which no simple solution has yet been suggested is how to get ammunition into the hands of those who are not required to buy licenses —the men and boys on the farms.

Due to the war emergency we have devised various sharing plans. This seems to be a good time to launch a "Share-The-Ammunition" campaign. Probably we can't all follow the example of a sportsmen's club on the Eastern Shore of Maryland recently where its members brought to a meeting all the ammunition they had in reserve, pooled it, and re-divided it on an equitable basis. However, there are unquestionably many Chapters of the Izaak Walton League, as well as other organizations, that could undertake a plan of that kind. Once such an idea takes hold it will spread country-wide, and I am bringing it to the attention of this Convention in the hope that various delegates will try it out in their respective states.

Those of us who have been close to this problem really believe that the Federal authorities will deem it advantageous to the war effort to permit the production of a limited supply of civilian ammunition, but *not one of us wants a single shotgun shell or rifle cartridge produced for civilian use if it will delay the end of this terrible war a single day.* We do feel, however, that a limited supply of ammunition will provide some good preinduction marksmanship training for thousands of young men who will be called to the colors within the next 12 to 18 months.

Some people deplore the fact that we were not foresighted enough to manufacture and place in the hands of the jobbers a much larger supply of civilian ammunition in advance of the war. But why criticise that minor lack of foresight when many far more important needs were not anticipated earlier?

Once in a while a dose of bitter medicine like the current ammunition situation is good for all of us. It helps to bring us face to face with the realities of life as they confronted our pioneer ancestors. It should



Photo by S. R. Stefanides

Michael, left, and John Haddick, Swoyerville, with two fine bucks killed December 12, last season, near Bold Mountain, Luzerne Co.

make better marksmen out of us. In other words, now is the time to make every shot count. In addition to assuring better marksmanship, it should reduce crippling losses and avoid a lot of hunting accidents.

In conclusion, I suggest a rather hastily assembled code for war-time sportsmen, as follows:

Code For War-Time Sportsmen

1. Share your ammunition—make every shot count!
2. Food will win the war—waste not a single pound of edible flesh.
3. Salvage hides, fats and feathers to provide the sinews of war.
4. War Production comes first, but go hunting and fishing as often as you can.
5. Share transportation with your neighbor —save gas and rubber.

It'll Happen Every Time

(Continued from page 5)

"I thought this outdoor business was a lot of baloney—everything so perfect, everybody returned home happy, all got their limits of fish or game—I linked it with a woman's sport. I couldn't see anything exciting about lifting your gun and shooting some wild creature down in cold blood. But I've found that anything can happen in the outdoors. It's the uncertainty of hitting your game, of finding it at all, a sort of game you play with nature—that's the satisfaction I didn't know existed.

"Man, it's real he-man sport. Today I did something beside hit a little white ball. I'm tired, healthfully tired, and I got memories of a dozen different situations to think of during the coming week. I'd like to go every week-end."

That speech stops me. I'm too dumfounded to do a thing but look at the doctor and swallow dryly.



Photo by A. G. Ziegler

Five dandies which members of the Hoppi Gunning Club, Manchester, Pa., bagged last year in Potter County.

"By golly," Doc sits back comfortably, crosses a leg and asks innocently enough, "Did you hear that doggone bull *growling* at me?"

And for the first time I realize that I've been in on something more than just an unsuccessful hunt. I know now that an unbeliever has been made pure—another quail hunter has been born.

Realizing the necessity for helping homemakers visualize ways in which to save for War Bonds and Stamps, J. Kathryn Francis and Mrs. Anna Lewis Logg, home demonstration agents of Mercer county, N. J. recently conducted an exhibit in the county courthouse.

Suggestions and plans for making over used clothing, with placards pointing out possible savings for War Savings Stamps, featured the display.

Farm Ponds

(Continued from page 13)

needed the first year. After the first year, about five applications per year should be made. The fertilizer is distributed as evenly as convenient on the water either from the shore or a boat. If there is appreciable water flowing out of the pool no fertilizer should be applied close to the outlet. Quantity of fertilizer will depend upon the type. For complete fertilizers the rate of application should be about 100 pounds per surface acre for each application. Dried sheep or chicken manure takes about the same amount with the addition of 20 pounds of 20 per cent superphosphate for each 100 pounds of dried manure. For fresh sheep or chicken manure about 400 pounds per acre per application should be used with the addition of 20 pounds of 20 per cent superphosphate. Fresh cow or horse manure may also be used at the rate of 600 pounds per acre per application plus 40 pounds of 20 per cent superphosphate. Soybean meal or cottonseed meal at the rate of 150 pounds plus 40 pounds of 20 per cent superphosphate is another type that may be available in some localities.

These rates of application may not be exactly right for any particular pond. The effect of the fertilizer on the water is to produce an immense crop of microscopic organisms known as plankton which furnish the basis of the food chain. These organisms color the water, usually a shade of greenish brown. The darker the color the greater is the quantity of plankton. If a bright object can be just barely seen at about 18 to 20 inches deep in the water, the density of plankton is about right. If the water is so dark that the object cannot be seen at 20 inches, the fertilization has been too heavy and should be reduced. If the water is so light that the object can be seen below 20 inches, it is probable that more fertilizer could be used to advantage. Sometimes the application of fertilizer in a pond will result in an excessive growth of filamentous algae (pond scum). This sometimes occurs as a result of an inadequate supply of nitrogen in the fertilizer. If this algae does appear in quantity, fertilization should be stopped until the water is reasonably clear again.

Harvesting of Fish

When a pond is properly stocked and fertilized the growth and production of fish will be rapid. In Alabama, crops as high as 500 pounds to the acre have been produced but in our colder climate we cannot expect nearly this amount. Two to three hundred pounds will be very good production. If the crop is to continue it must be harvested as fast as it is produced. It is, of course, necessary to observe the fish laws with respect to the taking of these species but it cannot be too greatly emphasized that the proper management of the pond demands that the fish crop be removed as fast as it is produced. Otherwise, the pond will become over-populated with small fish which then, because of the excessive competition, will become dwarfed. This defeats the purpose and wastes the investment.



Large quantities of aquatic vegetation often choke up the pond and impede fishing. It also provides shelter for small fish and tends to make it more difficult for the black bass to catch them. This slows the rate of growth of the black bass and sometimes results in too many sunfish.



Roadside ditch erosion can often be corrected by building ponds back of the highway fill. Here is shown both a serious gully resulting from water cutting along the base of the highway fill and the drop inlet structure that has been built to provide a pond that will control this erosion.

Other Aspects of Pond Management

Even though farm ponds are often used as a source of water for livestock, the pond proper should not be accessible to the animals. If the pond is in a pasture it should be fenced and provision made to water the animals in a tank below the outlet of the pond. Only by excluding the livestock can the water be kept clean and the banks in good condition.

Most farm ponds will support a population of muskrats. These animals also are a crop and should be harvested. If the surplus of animals is taken each year the remainder will serve as a breeding stock for a new crop. At the same time that the furs are harvested the animals are prevented from causing unnecessary damage to the pond structure itself.

The pond may be made more desirable from the standpoint of birds and other wildlife by suitable plantings. The shore of the pond should be maintained in grass, if possible, for a distance of about 10 feet back of the water's edge and mowed once or twice a year. This will facilitate fishing and help to keep down the number of mosquitoes. Plantings of shrubs and trees may be made 10 feet or more away from the bank. Generally speaking, aquatic plantings are not needed although the planting of a few bulrushes or cattails around the inlet of the pond may be made to provide muskrat food if desired. Elsewhere in the pond it is better to keep out large aquatic vegetation in order to efficiently produce fish.

Call in an Engineer if You Are Planning to Build a Pond

And now we are back where we started. If you do not have a pond you may want one. So if you are planning to build one, be sure to get good engineering advice. There is nothing more discouraging than a pond that doesn't work. Be sure the soil is right. Be sure you have selected the right location. Be sure that you have enough water but not too much. Always plan to provide means for draining the pond at will. You may also wish to include in the design provision for flood control values. Finally, having taken these matters into account, your design should provide a structure that is both safe and economical to build.

Assistance is available to help landowners with their farm pond problems. Fish specialists from the State Fish Commission are always glad to advise concerning stocking and management matters. Planning for farm ponds is a regular business of conservation farming as practiced in Soil Conservation Districts. Fish for stocking farm ponds are sometimes made available through the facilities of the State Fish Commission, Soil Conservation Districts, and the U. S. Fish and Wildlife Service. Those wishing further information may consult any of these agencies.

NOTE: Under law it is necessary to secure a permit from the State Water and Power Resources Board to build a dam exceeding three feet in height in a stream not exceeding fifty feet in width, where such dam is constructed for the sole purpose of creating a pool in such stream for fish and fishing purposes.

★ ★ ★ CURRENT TOPICS ★ ★ ★

RETIRED



Charles B. Baum

As of May 1, 1943, Charles B. Baum of Harrisburg, special investigator for the Commission and the oldest employee in point of service with the Department, retired from active duty upon reaching his 65th milestone—31 years and 8 months of continuous service—a most unusual and enviable record. In those 31 odd years Charlie saw the Department grow from a very small beginning into its present large structure—not only saw it grow, but helped to build it.

On September 1, 1911, when he first entered the service as a Game Protector, two years before the Resident Hunters' License Law was passed, he was a "lone star ranger," so to speak. He and the late Joseph Berrier, also of Harrisburg, who was before him the only protector operating throughout the entire Commonwealth, constituted the backbone of the then small active field organization. In those early days it really meant pioneering, and only those with courage and the love of the outdoors in their hearts survived the long, hard, upward struggle to win the fight for conservation.

How well Charlie fought that fight, how enthusiastic, how dependable—all are mutually testified to by his long and faithful service and his untiring efforts. These efforts were especially outstanding in his capacity as a special investigator, to which office he was appointed January 16, 1924. With him, like with all the others who have retired under the Game Commission's established policy in effect since January 1, 1935, we hope his retirement from strenuous duty will merely open a new series of healthful, happy years ahead. Although no longer a member of the official family, we feel quite sure that he will always maintain a devoted interest in the work of the Commission.

NEW LANDS ACQUIRED

By W. Gard. Conklin

LAST July the Commission adopted a resolution not to consider and act on offers of sale of lands for a period of six months, not knowing the effect of the war on its funds. The recess developed into a nine months period, since no options were considered until the 8th of April this year. At its meeting on that date land purchase options for 73 tracts totalling 23,178.9 acres were presented for consideration. Of these, the Commissioners accepted 49 options totalling 16,819.8 acres, for which land purchase contracts were promptly entered into. Titles are now being examined and boundary line surveys made as rapidly as existing war conditions permit.

At the same meeting counter offers were made for two tracts totalling 432.9 acres, with the understanding that if the two landowners concerned agree to the Commission's conditions by April 30th, land purchase contracts would be entered into.

Six offers totalling 2,226.0 acres were rejected for one reason or another, and action postponed on 16 offers totalling 3,700.2 acres.

The largest acreage included in any one option accepted was 2200 acres in Clearfield County, owned and offered by former State Senator Charles Steele. The option included two 1100 acre separated tracts, one adjacent to State Game Lands No. 90, the other adjacent to State Game Lands No. 94. Both tracts will supply good deer, rabbit, and ruffed grouse hunting.

The largest contiguous area in one option accepted was 1800 acres in Schuylkill and Lebanon Counties, situate adjacent to State Game Lands No. 80. This tract was offered by J. W. Beecher.

The second largest tract accepted in one option was 1,743 acres in Rush Township, Centre County, adjacent to State Game Lands No. 33. The offer was made by the First National Bank of Philipsburg.

The second largest contiguous area accepted was covered by two options; one from the Luzerne County Commissioners for 1,441 acres, known as the Michael J. Malloy lands, the other from Mrs. Eunice E. Sherwood for 1,150 acres. These lands are in the vicinity of State Game Lands Nos. 119 and 187, in Luzerne County, and are splendid game territory.

The tract which, in all probability, created the greatest amount of interest is in Lehigh County. It contains 551.5 acres and is part of the General Harry C. Trexler Sheep Ranch and offered by the Trexler Trustees. The sheep ranch totalled approximately 2700 acres, and made up many marginal farms acquired by General Trexler some years prior to his death, and produced many high grade sheep. The Trustees could see their way clear to offer only a small part of it at a price the Commission felt justified in paying. So small an area as 551.5 acres, except where adjacent to previously acquired lands, is more or less an exception to the Commission's general rule. However, it is expected that the new acquisition will form a nucleus for expansion in the future.

The other options accepted were:

Bucks County; 24 small tracts totalling 228.1 acres on Haycock Mountains, required to fill in State Game Lands No. 157.

Bucks County; 2 tracts totalling 65 acres, adjacent to State Game Lands No. 56.

Lebanon County; 50 acres known as the Lake Duffey tract, adjacent to State Game Lands No. 145, offered by the Fulton County Trust Company, New York, Trustees and Agents for the Heirs of Anne C. Rogers.

Carbon County; 946.5 acres, adjacent to State Game Lands No. 141, offered by the Executors of the late Elizabeth Smith.

Luzerne County; 22.6 acres, adjacent to State Game Lands No. 187, offered by Clara K. Patterson.

Luzerne County; 776.5 acres, about 5 miles south of State Game Lands No. 57, offered by The Kingston Securities Corporation.

Monroe County; 400 to 500 acres, adjacent to State Game Lands No. 127, offered by Katherine V. Shull, et al., Executors under the will of Claude C. Shull.

Susquehanna County; 1,318.0 acres, in the vicinity of State Game Lands No. 70, offered by M. B. Lake.

Wyoming County; 1,026.0 acres, adjacent to State Game Lands No. 57, offered by Walter S. Kitchen, et al.

Bradford County; 110.0 acres adjacent to State Game Lands No. 12, offered by Edward C. M. Richards.

Columbia County; 77.5 acres adjacent to State Game Lands No. 58, offered by Columbia County Commissioners.

Snyder County; 176.0 acres adjacent to State Game Lands No. 188, offered by James H. Wiand.

Tioga County; 61.0 acres adjacent to State Game Lands No. 37, offered by Norris Benson and 550.0 acres offered by Norris and Bert Benson.

Blair County; 585.0 acres adjacent to State Game Lands No. 147 offered by George R. Lingenfelter.

Cameron County; 166.8 acres adjacent to State Game Lands No. 14, offered by F. S. Klawuhn and E. D. Smith, Trustees Snake Run Hunting Club.

Elk County; 352.8 acres adjacent to State Game Lands No. 44, offered by Richard E. Cartwright, et al.

Butler County, Coal, oil, gas and limestone, etc., under tract owned by the Game Commission, containing 488.0 acres, offered by Martin A. Reiber, Esq.

Crawford County; 53.0 acres adjacent to State Game Lands No. 202, offered by Commissioners of Crawford County.

Since the Commission started its land purchase program in 1920, title has been secured for a grand total of 726,970 acres distributed through 61 of the 67 counties of the State. 35 additional tracts are under contract for purchase, having been accepted by the Commission many months ago. Titles for these tracts have not yet been perfected to the satisfaction of the Commonwealth. The grand total of lands already acquired and those under contract for purchase slightly exceed 750,000 acres.

With Those in Service

"I'm glad to report the voyage had no major interruptions and no resistance from the enemy. The place, as you may have guessed, is somewhere in North Africa. So far I have not been able to see much of the country except a general view during the travels. It's all been very fascinating to me, but I am of the desire of almost everyone—the time to return to U.S.A. cannot come too soon.

"The work I am doing now is of the same type that I did in the States. It isn't very colorful but I'm satisfied to be less active for awhile. Naturally there is a seven-day schedule over here and each day is fully occupied from morning to dark. Right now we are living close to the elements and learning how many things at home were luxuries.

"You probably know more about the international situation than I do so I won't attempt to tell you when this will end. My short exposure to French wasn't effective enough to enable me to read a newspaper. Consequently all I get is hearsay and I'm always reluctant to believe these for fear of rumors." Corporal Daniel H. Fackler, Headquarters, Eastern Base Section, A.P.O. 763, c/o Postmaster, New York, New York.

"Your letter was very interesting. I am very glad to hear of your mentioned activities. I still haven't forgotten about you folks, as I often think of all of you doing your grand job back there. Recently I had some copies of the Game News from "back yonder" and found them very interesting. Seems funny but always when I dig one of these out to read I find someone edging in and remarking that 'I got that when I was back home'. They are as glad to read it as I am.

"I haven't heard from any of the boys in the service, except Mostoller and Defina. The Game News gave me the addresses of some of the others. Maybe I can find time to write to some of them yet, though I don't get much time to do that.

"I have had many interesting experiences, and saw things that I never dreamed I would see, but much as I would like to tell you of these now you'll just have to be patient until I get back. I'm told that my home county is about drained of all Game Protectors. Along with them though I guess a lot of the outlaws are also drained out."—Pvt. Martin L. Shaffer, Company B, 33rd Inf., A.P.O. 870 c/o Postmaster, New York, New York.

Lost or Stolen: Brown male Cocker Spaniel in the vicinity of New Hope, Pa., February 28. He is 2½ years old, freckled white muzzle and center of forehead, white chest, white feet, long tail with white tip (tail may be freshly cut), answers to name of "Jimmy" Bucks County License (1942) No. 2261. A reward is offered by N. W. Goodwin, R. D. No. 1, New Hope, for any information concerning this dog.



Photo by Allentown Call-Chronicle

Mrs. C. A. Collins, hostess in the USO lounge of the Y. M. C. A., and Attorney Eugene Gorman, chairman of the service committee of the local USO, are receiving 1,055 packs of cigarettes from Lawrence W. Knoblach, president of the Lehigh County Fish and Game Protective Assn. The cigarettes were collected at the Sportsmen's 22nd annual meeting.

NOTES FROM THE FIELD

"While trapping pheasants on State Game Lands No. 182 I caught two Cooper's hawks and eight pheasants in one of the large traps one day. The hawks had killed one pheasant and badly mangled another."—Game Protector Elmer J. Turner, District A-2.

"On February 23 I found a deer in the Devil's Hole that had been chased by a dog. It was so completely exhausted that I picked it up put it in the truck, and took it to a sportsman's home where it is being cared for and appears to be recovering very nicely. The dog was driven off by passing motorists.

"While patrolling during the beaver season I came upon a crippled grouse that had fallen into a spring hole and was fluttering around trying to make its way across. I noticed that the bird had been shot in the left wing during the previous open season, but although it was already healed, the bird was unable to fly. It finally got across the water and walked into the heavier cover. I think it is remarkable that a bird with a crippled wing could survive such blizzards and sub-zero weather as we have had in the Pocono's this year.

"On February 28, a beaver weighing 40 pounds was caught on the Military Reservation. It had a tail shaped exactly like a mitten. There were no signs of the animal ever having been caught by the tail. How did it happen? I don't know."—Game Protector Paul J. Failor, District B-10.

"While patrolling on Game Land No. 112, February 19, I saw eleven grouse, two deer, and the tracks of three turkeys."—Game Protector Elmer L. Alexander, District D-3.

"We had many beaver trappers out in some parts of this county. The gasoline ration did not stop them. One dam had seven trappers on it. Others had two to five. Some of them drove in twelve to fourteen miles each day. Only a fair amount of beavers were taken. Many of the dams were frozen over all season and the animals did not come out much to feed. In traveling the back roads and woods to check the beaver dams I noted many deer and grouse. Fushed one flock of 13 grouse."—Game Protector C. W. Decker, District 10, Division "E."

"On February 20 while on the road to Refuge 97A, I saw 6 deer in a corn field just before daylight. They all started to move out across the road ahead of me. One had a small "Y" on either side. He did not pick a very good opening through a wire fence, but ran right smack into it. When he bounded back from the impact he did not have the horns. I have heard of this and know it happens every year, but seeing a deer actually lose his rack was a new one to me. I walked over and found

(Continued on page 30)

FIELD NOTES

(Continued from page 29)

both antlers, one about 6 feet away from the fence and the other about 15 feet away. They were not quite ready to be shed as they had been attached quite firmly over half the base.

"On Tuesday, February 23, while doing some feeding on S.G.L. No. 48 I noticed that wild turkeys were feeding in the refuge again. We have been putting out Chufa Tubers for several years and I had pulled up about two dozen plants and turned them up so they would be easier located by game. The turkeys evidently found these plants, became interested, and dug up others for themselves. I believe that Chufa Tubers may be worked into our winter feeding program as a very important late winter or spring food supply in turkey country."—Game Protector Clifford L. Ruth, District 10, Division "D."

"On Sunday morning of February 14 I received a phone call from District Protector Baumgardner to go to the farm of 'Sandy' Nesbit to look after a deer that was acting crazy.

"I left immediately, accompanied by my two sons, for the Nesbit farm in Todd Twp., near Knobsville in Fulton County. Upon our arrival we observed the deer, a fine doe, standing on Mr. Nesbit's front porch. The Nesbits had a musical program on their radio, and had raised the window just a little. Mrs. deer was listening very intently.

"When Mr. Nesbit made his appearance around the corner of the house she started to move off of the porch, but fell sprawling and slithered to the ground. She then started to turn around in circles counter clock-wise, only moving in any direction a few feet. This kept up until she fell, apparently having her equilibrium unbalanced by so rapidly turning around.

"In a phone call to Supervisor Davis I was advised to dispose of the animal and take it to my headquarters to see if I could find any trouble. After taking pictures this was done.

"My first thought was of the nose worm but examination did not reveal this to be the trouble. I examined all other organs and could not find any organic trouble that would cause these peculiar actions. I concluded that there must be some pressure on the brain or the spinal cord that was paralyzing the nerves on one side of the deer.

"She was carrying an embryo fawn that was developed to the point that the sex was noticeable beyond any doubt. The embryo is in a preservative solution at the Division Office at Huntingdon."—Game Protector William Lane, District 11, Division "D."

Do You Know That

If you buy the Mrs. a fur coat called any of the following it is made from rabbit skins: French Seal. French Beaver. Beaverette. Chapchilla. Chinchillette. Coney or Cony. Ermeline. Erminette. Marmotine. Moline. Near Seal. Polar Seal. Lapin. Sealine. Squirrellette. Squirreline.



Photo by T. G. Post

Mrs. G. G. Post, Benton, with a 150 lb.—24 in. spread—9 point buck taken last season.

New Service Library

A folder announcing and describing the special services of the extension library of the Pennsylvania State College is ready for distribution to angling and sportsmen's clubs throughout the state. They are available in quantity and without cost and explain the special services which organizations may use for nominal or handling charges. The services are the "packet library" and the film loan service.

The "packet library" is an organized assortment of books, magazines, pamphlets and even photostated copies of current periodicals concerning a particular subject. Material on more than 150 different subjects is available, including the series on Wild Life, containing such packets as: American Big Game, Fresh Water Game Fishes, Fur Bearing Animals, and Waterfowl Management.

The film loan services have on file 77 official war films and more than 500 copies of educational and instructional films, among which are "Safari on Wheels," "Royal Parks," "Peace River," "Song Shorts," and "Target for Tonight.""

Requests for folders should be addressed to the Extension Library Services, Room 9, College Library, State College, Pa.

HOW THE DIVIL GOT HIS DEER OR "HOW THE MALE DEER GOT HIS ANTLERS"

Gather 'round me, all ye hunters; git yer chairs and draw 'em near,
Whilst I tell ye how the Divil—Aye! The Divil—got his deer.
'Tis a tale ye'll be remembrin' as long as yer alive,
And maybe it'll warm ye when yer standin' on a drive;
But ne'ertheless 'twill give ye consolation when ye hear
The Divil had to use his wits to bag himself a deer.
It was, of course, just like him to pick the Sabbath Day,
And he said, "If I don't git one, there'll be the Devil to pay!"
Ere he left he took his gun down from a shelf behind the stove;
He gave his wife a burning kiss and through the door he dove.
'Twas a raw day in December and the hoary sages tell,
Old Satan had to admit himself the wind was "colder 'n hell!"
But grittin' his teeth he pulled his cloak above his pointed ears,
And it wasn't long 'till he stumbled on the trail of a browsing deer.
Old Lucifer grinned a devilish grin and set out on the spoor;
"When I draw a bead on that deer," said he, "He won't make tracks no more!"
As he reached the top of a lofty hill and paused to catch his breath,
The Divil suddenly heard a Voice that scared him half to death:
"O, Beelzebub, where goest thou attired in hunting clothes?"
And Satan sheepishly replied, "Oh, I'm just following my nose."
"Enough!" the Voice boomed out again, (the Divil sank to his knees)
"Begone! Resume your sport," It said, "But remember to keep it clean!"
So the Divil wiped his sweaty brow and continued on his way,
And all the while he silently swore he'd bag a deer that day.
Ere long he came upon a wood all grown up thick with brush,
And just ahead of him he saw a buck deer, sure enough!
Now, here's a part of the legend, and a part that ye should know—
That deer those days were antlerless and nary a horn did grow.
But ne'ertheless the Divil knew the deer he saw was male
And when the deer saw Lucifer, it uttered a soulful wail:
"Hold on there, Satan!" the animal cried, "this contest's not quite fair;
While you're equipped with gun and horns, we deer have naught but hair!"
"That's right," the Divil mused and so he waved his hand and said:
"Let Him give you a pair of horns and fix them on your head."
And, Lo! Ere he had spoken a metamorphosis took form,
And since that day all male deer bear a beautiful rack of horns.
"Now that's more like it," said the deer, "but how about that gun?
There's little left for me to do but leave here on the run!"
And while the Divil pondered this the cunning creature fled,
But in its haste it soon forgot the horns upon its head . . .
And that is how the Divil—Aye! The Divil—got his deer;
For the bucks horns struck a low-hung branch and knocked him on his ear!
Needless to say the Divil had a venison stew next morn,
But 'though old Satan got his deer, the buck had won his horns!



Photo by Allentown Call-Chronicle

New officers of the Lehigh County Federation of Sportsmen's clubs: Seated, Lawrence W. Knoblach, second vice president; Henry E. Klausfelter, president; William E. Talbot, retiring president and director, and Charles H. Nehf, secretary. Standing, Henry J. Kriebel of Macungie, treasurer; George T. Guignet, Tilghman S. Cooper, Jr., and Richard G. Mack, all directors.

The Papers Talk About Guns and Shooting

J. R. Mattern

THE shooting and hunting done by Americans at home prove now to be vital factors in defense of the nation, and in the echoing battles we fight.

If you ever thoughtlessly had doubts in the matter, you won't after reading Lt. Arthur Gordon's piece in the *Saturday Evening Post* for March 27, 1943, under the title of "We Bomb the U-Boat Pens." We quote from page 58.

".....

"Waist Gunner Neeley. Who is he? Colin Neeley, of Columbia, South Carolina, an old hand and a Regular Army man, with service in Panama. Close-mouthed and dependable and tough as an old hunting boot. No nerves at all. A leonine head with tawny, rather ruthless eyes—a hunter's eyes.

"Once, on a former mission, the tail gunner's twin guns jammed and he called on Neeley for help. Neeley twisted his own gun and calmly picked off the F-W as it closed in. A dead shot with any kind of a gun. Already one of his bursts has sent an enemy pursuit reeling away, damaged, if not destroyed. But now a cannon shell slices through the fuselage. It bursts and Neeley feels the fragments sting his legs . . ."

Speaking of tail gunner Willie Williams on page 61, the author subconsciously steps up his voltage in these words.

". . . he is still intact, and so are his guns. A thousand yards away, an F-W climbs lazily, hangs in the air, and shakes its wings like an old hen getting up out of the sand. Then suddenly it comes boring in close, closer. Willie Williams pours his tracers into it. He sees them enter the propellerarc, glance off the armored cockpit. And then, abruptly, the F-W rolls over, slips gently down, and bursts into flames . . ."

"Maybe he learned the knack in his boyhood on those cold gray mornings when he used to crunch among cornstalks white with frost, waiting for the doves to come in. Or maybe something his parents taught him has more to do with it—fear of God and nothing else in the world. Whatever it was, this is the same boy who used to go to school every day with his mother . . . The boy who liked fishing and hunting and roller skating . . ."

In the larger field, there is the spine-tingling admission of Captain Anthony Eden, gentleman from England who knows the troubles there, sent over to tell us about them. As reported in the *New York Times* for March 27, 1943, he made a speech at Annapolis, Maryland, in which he said:

"One incident in particular will be vivid in my recollection to my dying day. It had been my duty as Secretary of State for War, at that time to call upon the nation to enroll in a new force, the Local Defense Volunteers, since renamed by the Prime Minister, the 'Home Guard.'

"The men responded in numbers far exceeding our calculation. They were eager to drill, and to fight, but we had no weapons for them. We had not equipment enough for the divisions of our regular Army saved from Dunkirk. Our industry, though working as it had never worked before, could not meet this demand. It was then that you (in the United States) made your first great venture. In a brief span you sent us more than a million rifles, guns, machine guns and other weapons, from your arsenals, to arm our volunteers. I can recall today the anxiety with which we watched the voyage of those ships; and the relief with which we signaled each consignment safely brought to port by the gallant men of the Royal Navy and merchant marine. Those weapons might well have meant the difference between life and death for us."

Hats off to the Clinton County Fish and Game Association which is trying hard to push its membership to 1,000. The club never had more than 483, now has 638 and is putting a drive on. Most of them are active too.

Some clubs are sending free memberships to members in the service, and are the boys grateful? And how!

Right now is the time for all clubs to think in terms of post-war planning. A lot of manpower must be absorbed after the war and any projects which are likely to develop to take up the slack might just as well be conservation projects. Help your Game Commission to plan wisely for the future. Send in your ideas for post-war activities.

Spokane county farmers have drawn up a financial formula in their drive to aid in the all out war effort. It reads:

"In order to insure national unity, fight inflation, avoid depression after the war, help finance war expenditures and improve my own financial condition, I agree,

"That the income from my farm will be invested to the best of my ability in keeping with the following general plan:

"(a) Pay all current indebtedness.
"(b) Pay property taxes.
"(c) Pay the interest and principal installments on my mortgage debt.
"(e) Set aside funds for income tax payments.
"(f) Save the balance by investing it in War Savings Bonds."

Correction

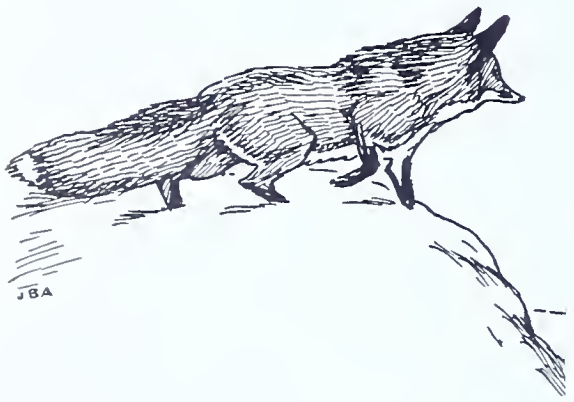
The caption at the top of page 6 of the May issue under the photograph showing the man with dog on "point" is in error. The figure denoting the pounds of game harvested in the United States, namely, 233,000,000 should have been 253,000,000. The same error in the same figure appears in paragraph 2, column 1, page 7.



Edward K. Siebert, R. D. No. 1, Lititz, fed the above 16 stray cats, all confirmed game killers, each a good dose of 22 Long Rifles.

Hard Trapline Facts

(Continued from page 8)



the prudence of one smart fox I recalled what the Swede had told me. I realized for the first time that the fox was no cinch, after all.

If you would be a trapper, friend, you will find that there is a great deal of personal satisfaction and a feeling of superiority in being able to outwit a clever, cunning fur-bearer; but alas!—only a lot of agonizing mental burden if someone else beats you to your quarry and helps himself by virtue of first discovery. Indeed, nothing under the sun would upset you any quicker, nothing would jar your peace of mind any sooner than the sudden realization that a sneak thief had beaten you at your own game. Every trapper has this, the worst of all trapline evils, to put up with. There are ways and means by which to keep this human marauder in check. The practice of plundering steel traps and fur-bearing animals is not restricted to any one or a few localities; it is in reality a widespread practice, and only prudent understanding of trapping tactics can hamper it and keep it down at a minimum.

Regular trappers do not disturb the traps or fur-bearing animals of another. They respect the law and they possess a high regard for the feelings of other trappers. I could enumerate scores of examples of splendid sportsmanship. I can say the same for many men who hunt game and come upon a fox or raccoon or other fur-bearer in a trapper's trap. By far the majority of those who tramp the autumn fields and woods, whether with gun or trap, are really sportsmen in heart and in mind and it is only a small minority that defies the rules of civilian law; but it is this nefarious conduct of the minority that makes life miserable for those who believe in playing the game fair.

Trapping, from the view point of many people, is considered a sport. To a youngster it is, indeed, a most exciting sport. However, after one has followed up this game for a few years, has learned more about its ins and outs, its ups and downs, he finds out that trapping fur-bearing animals is really something that takes plenty of energy and time; he finds out too that trapping equipment costs money, that a motor vehicle becomes quite an imperative necessity and with it the gas, oil, tire, repairs and other upkeep costs. When analyzed properly we find that trapping is just like another job. In my estimation it can be properly termed as a Fall and Winter occupation because it constitutes the bread and butter of quite a number of people even right here in Pennsylvania. The trapline is no place for a lazy man.

There is just one more point in this discussion of hard trapline facts, I want to bring out, because I believe that it will help to clarify a queer situation in our wildlife status. We would not deny a boy the right to take the same kind of fish that we delight in taking, would we? In trapping, gentlemen, by far the greatest number of adherents are boys and, certainly, they cannot speak for themselves as well as another—a more mature person. We were all boys at one time, too. As it is, in some of our counties raccoon trapping has been forbidden for a number of years. In my opinion there are more raccoons in Pennsylvania this year than in any one of the preceding twenty years. The 'coon population has been growing steadily, it has been spreading quite rapidly and that is of some concern to quite a number of farmers. Foxes are getting blamed for some of the farm damages that raccoons are responsible for. Raccoons are doing a considerable amount of depredation to nests of game birds, they are destroying a number of game birds and other small game animals also.

These are facts, not fallacies; they can be accounted for.

Now while that is so it would seem logical to give some consideration to the issue and act in accordance with the fair contention of many young and old trappers, to wit: if there are enough 'coons to allow hunting them, then there are enough 'coons to allow trapping them also. In these hectic war days our kinship could be molded more firmly, measured more in the spirit of real sportsmanship and fair play. I am sure that the trappers, generally, would be pleased immensely with a coordinated adjustment in the raccoon law, not because it would help them to make money but because it would show them that they are recognized as sportsmen in a sportsmen's society, and that the part which they play in controlling predators is appreciated and accepted honorably. Indeed, the raccoon gets into a trap again and again and suppose the trappers would take some of these animals legitimately from the counties that are closed now, I am sure they would not deplete the supply dangerously. There are newcomers in the field of trapping every year, boys mainly as mentioned heretofore, and if we think of them in the right way then we believe that there ought to be a rectification in the present raccoon law. Certainly, we should be governed by sane reasoning and grant these young fellows the right to have some fun in trapping raccoons too. Think it over.



Photo by Elmer Detrick

Another five-some killed by members of the Indian Head Camp of Pike County first week of December, 1942.

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VOL. XIV, NO. 4

EDITORIAL

JULY, 1943

IN THIS ISSUE

☆

Game Law Changes

★

Grease for the Axis
By the Editor

★

Dwellers in Darkness
By Charles E. Mohr

★

Service With a Smile
(A Report on the U. S. Park Service)

★

Food Habits of Foxes in Wild Turkey Territory
By Edward L. Kozicky

★

Build a Nature Trail
By Carsten Ahrens

★

Conservation Shortcomings
By N. R. Casillo

★

Ringtail
By H. T. Wieand

★

Saying What You Mean When You Talk Shooting
By J. M. Hawkins

★

National Grouse Champion
(A Report on the Nat. Grouse Trials)

★

Wildlife Status of Fur-Bearers
By S. V. Sedlak

☆

Cover by Wm. H. Rapp

ATTENTION HUNTERS!

CHANGES MADE IN THE GAME LAWS BY THE 1942 SPECIAL AND 1943 REGULAR SESSIONS OF THE LEGISLATURE ARE AS FOLLOWS:

1. WARTIME HOURS—Sections 702, 719 and 806 of the Game Law were amended to enable the Game Commission to adjust hours for hunting, carrying certain firearms and ammunition, etc., to conform with time changes or designations established by Federal Law, or by any regulations promulgated thereunder. (Act No. 11, April 13, 1942.)

2. SALE OF DEERSKINS—Section 716 of the Game Law was amended to authorize the sale and purchase of hides of lawfully killed deer, if they are disposed of by the original owner within 90 days after the close of the previous open season, but prohibits the sale of hides from deer killed to protect crops.

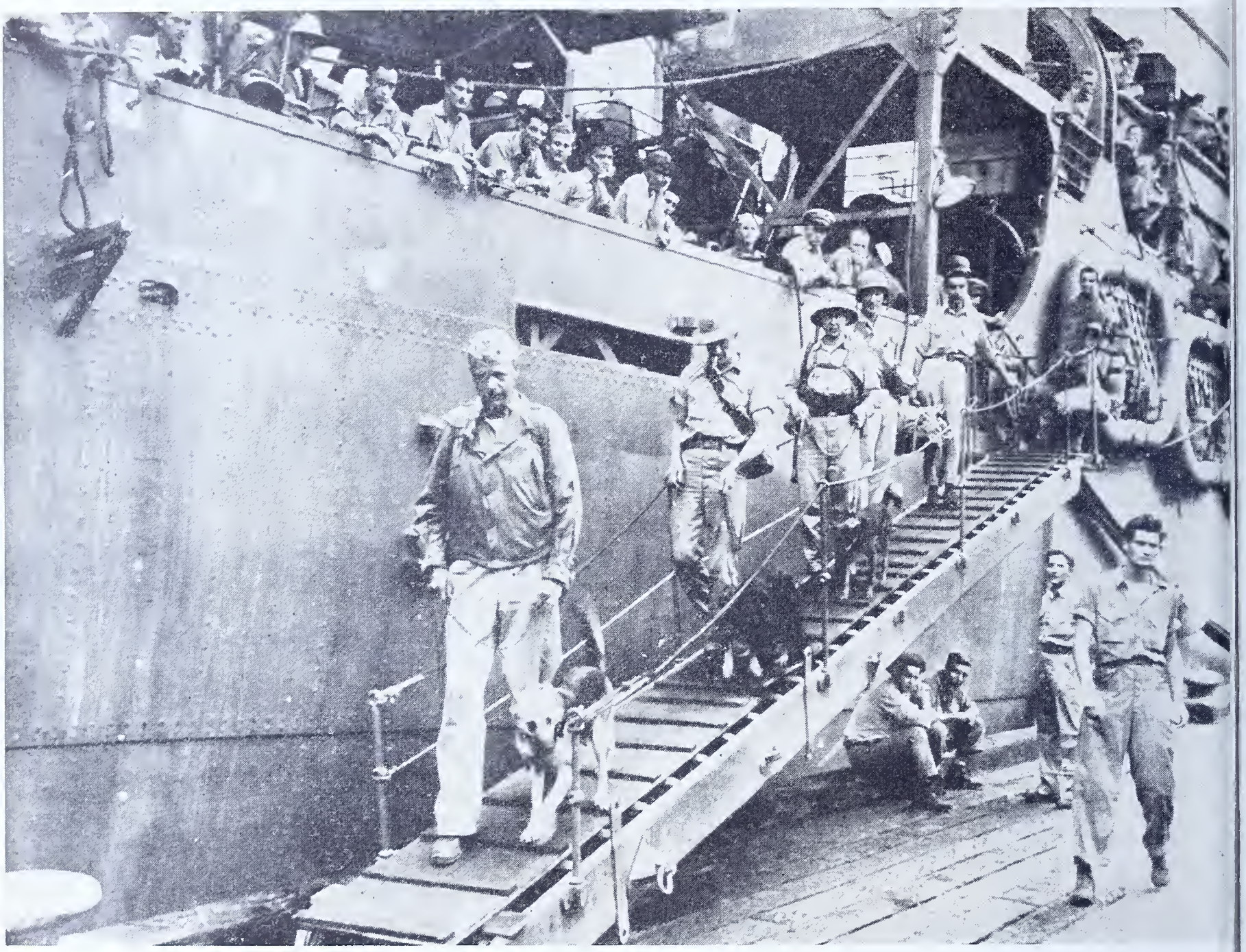
   Section 716 was also amended to prohibit the purchase or sale of wild caught Pennsylvania raccoons for propagating purposes, although the sale of such animals for release is still permitted. The provisions of the law with reference to possession permits and propagating licenses are not affected by this change. (Act No. 99, May 6, 1943.)

3. REFUNDS—Section 1212 of the Game Law was amended so that the Commission may refund any moneys erroneously paid into the State Treasury for hunting license fees by county treasurers subsequent to the thirty-first day of December one thousand nine hundred thirty-four if the return of such fee was requested of the Commonwealth within six months after their payment into the State Treasury. (Act No. 67, April 30, 1943.)

4. EXTENDING POWERS—An amendment to the 1942 Sabotage Prevention Act vests game protectors, foresters, forest rangers and fish wardens with the same powers vested in constables and other peace officers to make arrests for sabotage. (Act No. 281, May 26, 1943.)

5. TRESPASS LAW—Section 954 of the Penal Code was amended by including the lessee or occupant among those who may post private property against trespass and repeals the old 1901 Act applying only to agricultural lands. (Act No. 143, May 21, 1943.)

(Because the changes were so few, the Commission decided not to print any game law pamphlets for the 1943-44 period in order to cooperate in the war effort, but instead will issue a supplement to the 1941-42 Game Law Pamphlet. By doing this there will be a saving of over 30,000 pounds of paper. Persons desiring these changes in detail to place in their 1941-42 Game Law Pamphlet may secure them by writing direct to the Game Commission at Harrisburg.)



Marines at Guadalcanal with their War Dogs. There must be an adequate supply of properly trained dogs for our Armed Forces next year. To achieve this a national breeding program has been instituted under the auspices of the U. S. Coast Guard and sanctioned by Dogs For Defense, Inc. Lieut. W. Newbold Ely, Ambler, Pennsylvania, is in charge of this work in the Keystone State.

Grease for the Axis

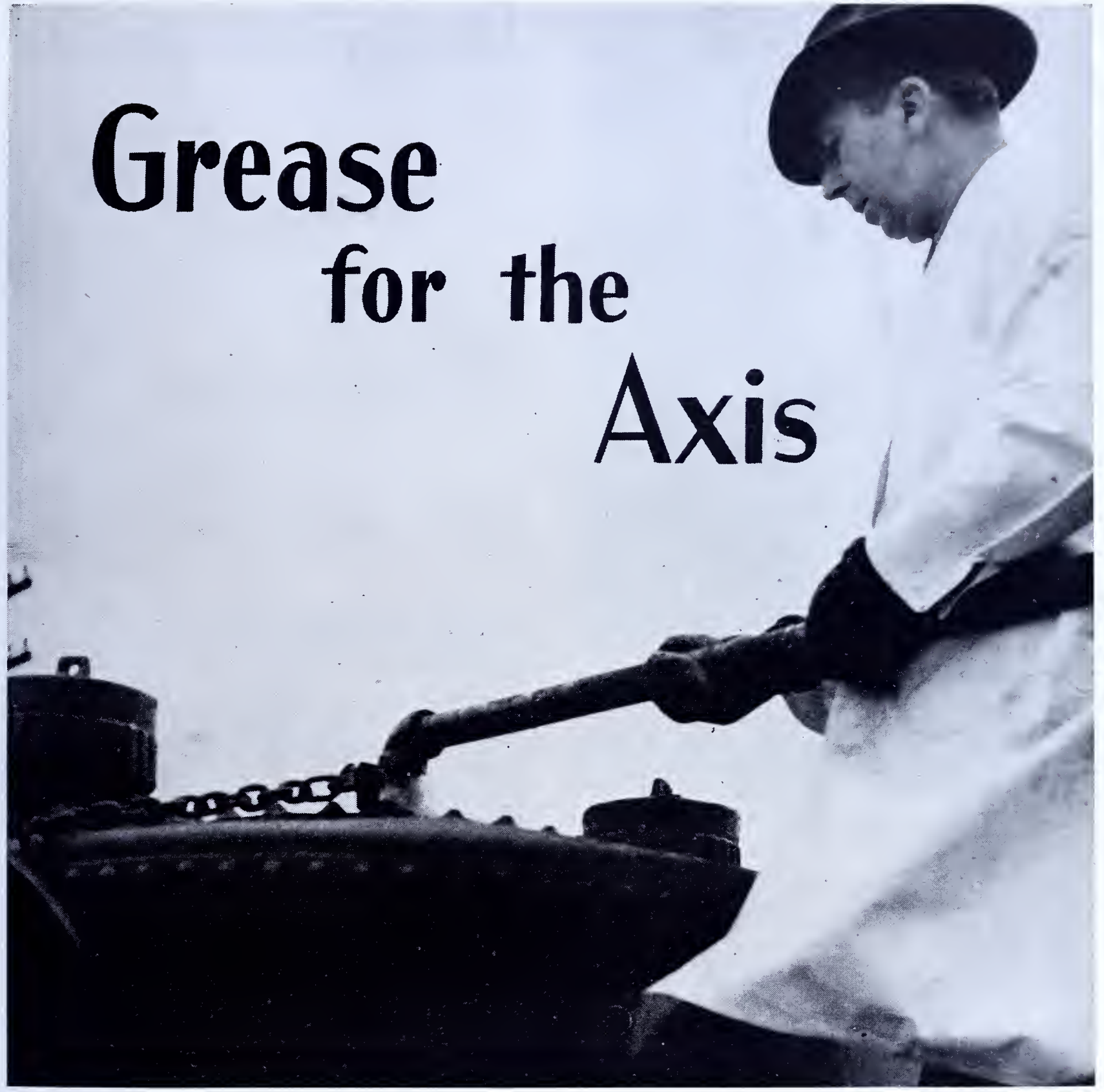


Photo W. L. R. Drake.

Over 94 tons of fat from fur-bearing animals were saved by Pennsylvania fur dealers, trappers, and rendering plants.

LAST Fall the Commission sponsored two war-effort programs—one to salvage deerskins for making gloves and vests for those in the armed forces; the other to save the fat from fur-bearing animals for making glycerine. Both were successful despite the fact that they were promulgated without a lot of groundwork due to the short time required to get the ball rolling in each case. Also, there were legal complications with reference to the contribution of deerskins, which made that program especially difficult to administer.

It looked at the outset as though both ventures would fall short of the mark, but when everything was said and done, and the reports were finally tabulated, it was learned that deer hunters had contributed over 7,000 skins and that fur-dealers and rendering plants had saved over 94 tons of grease.

Now just what does all that mean in terms of gloves, jackets, etc., or in glycerine? Let's sum it up quickly:—

One average tanned hide in good condition will produce four pairs of gloves, which means that at least 28,000 pairs could be made from the deerskins contributed.

Ninety-four tons of grease will produce enough glycerine to fire 752,000-37 mm anti-aircraft shells, or 940,000-37mm anti-tank shells, or 1,880,000 rounds from a .50 caliber airplane cannon.

The 7,000 skins contributed represented only about one-fourth of the deer taken last year. Total figures are not yet available, but the count to date is somewhere in the neighborhood of 27,000. If every hunter would have contributed his deerskin last year it would have meant many more gloves or vests for the men in the service. Let us hope that our sportsmen will go all-out in the campaign to salvage deerskins next season. Act No. 99, signed by Governor Martin on May 6, authorizing the sale of deerskins will permit the disposal of the hides through the regular channels of trade.

(Continued on page 19)



The rare long-eared bat, whose ears measure 1½ inches, is not at all ferocious. It has been found only once in Pennsylvania but might be found again. Note the thumb projecting from the wrist; the fingers are included in the webbed wing.

Dwellers In

Photos by the Author

CAVES are nature's air raid shelters. Since before the dawn of history men and beasts have sought safety in their dark recesses.

Fully 30,000 years ago men in southern France drove huge bears out of the caves and made their own homes there. They decorated the walls with amazingly good drawings of the bison, reindeer, and mammoth that roamed the countryside in those days.

You won't have to dispossess a savage bear to enter any of Pennsylvania's 120 caves, but if you should excavate the clay floor of one of them you might find the skull and fangs of a creature that was even more ferocious, the extinct saber-toothed tiger. Nine-inch long canines or eyeteeth of these fearsome cats have been unearthed among fossil deposits in Port Kennedy Cave, near Valley Forge.

In the same cave, in 1870, were found bones of a mastodon, a tapir, a huge bear and of peccaries as well as of many kinds of smaller animals which have long since disappeared. Musk-ox, that now live only in arctic America, were found in Durham Cave, below Easton. Bones of peccary and sloth in Frankstown Cave, near Altoona, prove that the climate was once much warmer here. Bones of six mastodons also were found at Frankstown. Bison and caribou remains were excavated at Hartman's Cave, near Stroudsburg.

Nearly a century ago many fossils were found in caves around Carlisle, but scarcely anyone has hunted for fossils in Pennsylvania caves in recent years. Doubtless there are still important finds to be made.

Today's cave inhabitants are very much smaller than some of the fossil ones. With the exception of skunks, all of them may be observed safely at arm's length, or closer if you wish. Pack rats, bats, frogs, and salamanders are the principal dwellers underground in Pennsylvania, though a host of smaller creatures, mostly insects and their relatives, also find shelter there.

One of the most interesting of western animals is the famous pack rat. His eastern cousin, the Allegheny cave rat or wood rat, is less well known but no less interesting. This cleanly rodent, looking a bit like a giant white-footed mouse, is one of nature's greatest collectors for he scampers away with any loose object he can find. Usually he stores them away in his underground "museum."

I camped one evening in the hunting territory of a family of these acquisitive creatures and didn't have a dull moment for the rest of the night. I had scarcely finished unpacking when articles began disappearing. Paper, string, and bits of food were whisked away while I was setting up my camera. Just as I loaded my flashgun one particularly bold fellow grabbed a wax-paper-wrapped sandwich, sank his long incisors into it, then straightened up on his hind feet and scurried away, gripping his prize between his forepaws. I got a picture of the brazen thief but he escaped with my lunch. Later that night he returned to



The tiny yellowish pipistrelle or pigmy bat measures only two inches from toes to nose as it hangs in solitary hibernation from September 'til April. Bats always hang upside down.

*Pres., The Pennsylvania Academy of Science.

Darkness

*By Charles E. Mohr**

tug at my blankets as I lay dozing near his subterranean hideout. I still have my blankets but a friend of mine lost a fountain pen to a cave rat.

In Cold Cave, below Pequea on the Susquehanna, I led a group of forty persons to a ledge where a cave rat sat on its nest of wild grapevine fibers and eyed us curiously but unafraid. Scattered around it were mushrooms, berries, and fern leaves, the normal food of these creatures when there are no picnickers to raid. Trader rats, the western prospectors called them for their habit of leaving an article in the place of the one they pilfer. Usually it is an acorn, a stone or a stick they are carrying when they come upon your penknife, watch, or other gadget. So don't let a cave rat trade with you.

Bats are more familiar cave dwellers. These winged animals, the only furry creatures that really fly, can be found in almost every cave in Pennsylvania. In some caves there are literally "bushels of bats," in others only a specimen or two, but if you go hunting for a bat your search is almost certain to be successful.

You may have trouble getting recruits to join you on a bat hunting expedition. Some persons suffer from claustrophobia, an



The number on the tiny aluminum arm band proves that this little brown bat has come back to Aitkin Cave, Mifflin County, winter after winter. Where it spends the summer will not be known until someone finds the bat and reports its number.



A cave or long-tailed salamander, yellow with black spots and six inches long, is the commonest "spring lizard" underground in Pennsylvania.

overpowering fear of being trapped in a small space, either closet, passage way, or cave. Others are just afraid of bats. Perhaps they think that bats get entangled in people's hair, particularly women's long tresses.

As a matter of fact bats have no trouble avoiding obstacles, even in total darkness. This remarkable ability has intrigued scientists and broom-swinging householders alike. Just recently scientists have discovered that bats, besides producing high-pitched audible notes, spit out a regular barrage of "supersonic" notes, too high for human ears to hear. These vibrations, bounding back as echoes from obstacles in the path of the bat, guide its flight.

Bats maneuver as easily through the winding passages of caves as through the leafy avenues which they visit at night in search of the flying insects that compose their diet. Bats are not blind, of course, but they evidently use their eyes but little.

You may see bats flying around a cave entrance on summer evenings but rarely do they roost in caves in warm weather.

It is in winter, when insect populations disappear, that bats take up a cave abode. One kind, the little yellowish pigmy bat, seeks out the caves before summer is quite over and doesn't emerge until late April, a seven-month's hibernation. The hardy big brown bat, commonly seen in cities and towns, usually waits 'till December before retiring to the safe, even temperature of cave land, an unvarying 55° F. or thereabouts.

There are seven species of bats which hibernate in Pennsylvania caves. Three other kinds of local bats fly southward to warmer climes at the approach of winter.

To discover how far bats fly to spend the winter in a cave, I have tagged or banded several thousand of them. Some of the

(Continued on page 24)



Photo by U. S. Dept. of Interior.
Lunch time near Hanging Glacier, Glacier National Park.



Photo by U. S. Dept. of Interior.
Pack outfit on the high divide between the north fork of the Quinault and the Queets. View is across the Queets Valley. Mount Tom and Mount Olympus in the distance. Olympic National Park.

Service Wi

EDITOR'S NOTE: *In the last several issues we have given our readers a brief account of the activities of the various Federal Conservation agencies, particularly with reference to their war effort programs. We are devoting this number to a short account of the National Park Service, which, like all other Federal Departments, has gone "all out" in the war program. The wide scope and importance of the many things which the Service has undertaken since the war makes it impossible to do other than merely skim the surface, and that is just what your Editor is going to try to do. Quoting from the Department's last annual report as presented by Newton B. Drury, National Park Service Director:*

IN WAR, no less than in peace, the national parks and allied areas have served as havens of refuge for those fortunate enough to be able to visit them. Providing an environment that tends to give relief from the tension of a warring world, the parks are being looked upon as a factor in a program of rehabilitation, physical and mental, that will be increasingly necessary as the war progresses. In the past 12 months, July 1, 1941, to June 30, 1942, approximately 650,000 members of the armed forces have visited the parks. Even though the demands of war may sharply curtail use by the civilian population for a time, Americans will still take pride and courage in the fact that this part of their cultural heritage is being preserved for future enjoyment.

The wisdom of the Nation in preserving these areas is clearly evident on the American continent today as increased demands upon our natural resources are invading and forever changing the native landscape. The national parks and monuments may soon be among the few places in the world where forests continue to evolve normally, where animal life remains in harmonious relationship to its environment, and where the ways of Nature and its works may still be studied in the original design.

War Activities of the National Park Service

On December 16, 1941, the Secretary of the Interior called upon all bureaus of the Department for "full mobilization of the Nation's natural resources for war . . . upon a basis best suited to serve our military and naval forces without waste, and with a view to saving all that we can of such resources for future generations."

The National Park Service has responded to that call, doing those things that came within its functions, endeavoring meanwhile to perform its established tasks, and not looking upon the war program as an opportunity to expand.

In all, 125 permits have been issued by the Department of the Interior to the War and Navy Departments and war agencies to make use of National Park Service lands, buildings, and facilities. These permits have ranged from the installation of direction finders along the coastal areas to the complete assignment during the war period of

th a Smile

two national monuments—Fort Pulaski in Georgia and Cabrillo in California. The extent and nature of most of these permits of necessity is confidential.

To assist the War Production Board, approximately 40 Service employees were assigned to a pig-iron survey in about 900 foundries located in New York, Pennsylvania, Ohio, Michigan, Illinois, and Wisconsin.

Immediate steps were taken after the declaration of war to establish fire-lookout and air-raid-warning towers in forested areas and to provide trained crews to combat forest fires and man lookout and patrol stations.

First-aid courses and ambulance service training have been given in practically all areas of the National Park Service. Hospital supplies from Yosemite and Sequoia National Parks were made available to hospitals in the San Joaquin Valley to accommodate patients that were moved from the San Francisco hospitals required for the sick and wounded from Pearl Harbor.

The knowledge that Service personnel have of the areas under their administration is constantly sought by military authorities. The Army has requested Service landscape architects, engineers, and field men to assist in locating gun emplacements and effectively camouflaging them, and in reporting weather data, condition of roads and trails, and accessibility of mountain and densely forested areas.

Army Rest Camps

Early in the spring of 1941 the Army recognized the desirability of providing inexpensive facilities in areas which would be available for use by soldiers on leave or which could be used for a week or two at a time to give men relief from the training grind. Field technicians of the National Park Service were called upon to assist in planning and directing our CCC forces in the construction of Army rest camps. As the first six camps approached completion, a steadily increasing number of locations were considered and designated by the Army, most of them in or near centers of population and one on the Lake of the Ozarks Recreational Demonstration Area in Missouri. Thirty-three camps with a capacity of approximately 20,000 men were constructed in 23 States and the District of Columbia.

Rest and Relaxation for British Sailors

When the American shipyards were thrown open to the British Navy, the British Advisory Repair Mission was faced with the problem of making provision for the crews of these vessels that would permit the sailors to get away from the sea for as complete a change of scene as possible. The group-camping facilities in the recreational demonstration areas and five vacant CCC camps were offered to the British Navy through the United States Navy. These areas have been used by approximately 10,000 British sailors who have been accommodated in them for periods ranging from 3 days to 10 weeks.

Recently the National Park Service has been called upon to supply or arrange for

(Continued on page 26)



Photo by U. S. Dept. of Interior.
Big tree of Maripasa Grove (note visitors standing under tree). Yosemite National Park.



Photo by U. S. Dept. of Interior.
Tenaya Lake, Yosemite National Park.

Food Habits of Foxes in

WHILE engaged in field research on the wild turkey *(Meleagris gallopavo silvestris)* in Pennsylvania an attempt was made to study the amount of predation on turkeys. There is little definite evidence available at present as to the role that predators, such as the gray fox *(Urocyon cinereoargenteus)* and the red fox *(Vulpes fulva)*, play in preying on wild turkeys. As fox scats (feces) were abundant on the wild turkey range along forest roads, trails, and field-edges, they were collected when opportunity permitted during regular field work. Analysis of the food contents of the fox scats served a twofold purpose: They afforded a better understanding of the fall food habits of the fox; and they showed that there was very little, if any, predation by foxes on wild turkeys during the late summer and early fall.

The study was conducted under the direction of Dr. Logan J. Bennett, Biologist, U. S. Fish and Wildlife Service and Dr. P. F. English, Associate Professor of Wildlife Management, Department of Zoology and Entomology, The Pennsylvania State College. Mr. Merrill Wood, Assistant Professor of Zoology, Department of Zoology and Entomology, The Pennsylvania State College identified all bird feathers found in the scats.

The scats were collected from four different counties: Huntingdon, 183; Bedford, 6; Centre, 3; and Fulton, 1. Table 1 shows the number of fox scats collected during the various months in 1941 and 1942. The difference in the number collected during 1941 and 1942 was due to two factors. There was an increase in the number of foxes on the area from 1941 to 1942, and a special effort was made to collect scats during the late summer and early fall of 1942.

The majority of the scats were collected from a 30,000-acre wild turkey study tract in Huntingdon and Centre Counties in the Seven Mountains region. This area is typical of the chestnut oak *(Quercus montana)* -pitch pine *(Pinus rigida)* forest type group located in the ridge and valley region of south-central Pennsylvania. The area is composed mostly of unbroken timberland of various age classes and is distinctly a gray fox habitat. Tracks observed in the sand, dust, and snow indicated that the greatest majority of the foxes were gray. It was estimated that about 80 percent or more of the foxes were of this species.

The collection and analysis of the scats was conducted as follows: Scats were collected in one- or two-pound size paper bags and labeled as to identity, location, and date of collection. The material was first thoroughly dried. In the laboratory the scats were broken apart and the various items separated. Hair was examined under a microscope and compared with hairs from known species. As it was difficult to distinguish between the hair of a red-backed mouse *(Evotomys* sp.) and a white-footed mouse *(Peromyscus* sp.), the two species were grouped together in the tables. Unknown seeds were compared to known seeds. The volume of the various items was determined by obtaining the volume of the entire scat, and then estimating the percentage of the total volume for the various constituents. This was the only practical method to use when the materials were mixed to a high degree.



Photo W. L. R. Drake.

The depredation of foxes on game is probably at a minimum during the late summer and early fall.

In evaluating the results of the analysis the frequency of occurrence is perhaps the best criterion by which to judge the food habits of the fox. Scott (1941) showed through experimental work that the frequency of occurrence method provided the most reliable interpretation of the relative quantities of food consumed in scat analysis.

Table 2 presents the analysis of 186 fox scats collected during September, October, and November in Huntingdon County during 1941 and 1942. Devil's darning needles or walking sticks and grasshoppers *(Orthoptera)* were foremost in importance. However, if a larger number of scats was collected during the fall of 1941, the results probably would have been different as there was a scarcity of walking sticks in the fall of 1941. White-footed mice and red-backed mice were second in importance on the list. Mice also were more abundant from field observations in 1942 than in 1941. Other important food items were huckleberry *(Gaylussacia* spp.), wild grape *(Vitis* spp.), cottontail *(Sylvilagus* spp.), white-tailed deer *(Odocoileus virginianus)*, black cherry *(Prunus serotina)*, apple *(Pyrus Malus)*, gray squirrel *(Sciurus carolinensis)*, and grass *(Gramineae)*.

Bennett and English (1942) found that the cottontail, woodchuck *(Marmota monax)*, white-tailed deer, white-footed mouse, and the red-backed mouse were important fall foods of the gray fox, upon analyzing 21 stomachs. Dearborn (1932), Errington (1935), and Hamilton, Hosley, and McGregor (1937) showed that the food habits of foxes varied with the relative abundance of prey. Consequently, food items leading the list one year may be of minor importance the next year. Furthermore, food habits are governed to a large extent by the type of habitat in which a predator is found. Cottontails and woodchucks were relatively scarce in the area where the majority of the scats were collected.

Certain factors must be taken into consideration when judging the food habits of a predacious species, such as the fox, by scat analysis. The presence of certain food items does not necessarily mean that they were killed by the fox, as foxes are known to eat carrion, English and Bennett (1942). White-tailed deer hair in the scats was undoubtedly from carrion. Ruffed grouse *(Bonasa umbellus)* was definitely found in three and possibly in five other scats. Some of the birds were probably carrion. It is during this early fall season that grouse go through what is called their "crazy season" and are occasionally found dead after flying into obstructions, such as telephone wires. Some items, for example leaves, woody twigs, hemlock *(Tsuga canadensis)* leaves, and pine *(Pinus* spp.) needles, were probably picked-up when the fox was engaged in catching a mouse or some other prey.

The main late summer and early fall foods of the foxes in the Seven Mountains region were found to be insects, mice, and fruits.

Table 3 shows the results of the analysis of five scats collected in February and March. Four of the scats were collected in Bedford County, and one was collected in Centre County. Nelson (1933) examined 82 gray fox stomachs collected in Virginia during the months of January, February, and March. The important food items were listed by him in the following order: Rabbits, mice and native rats, fleshy fruits, dried fruits, poultry, small non-game birds, carrion, and game birds. Hatfield (1939) analyzed 53 gray fox stomachs collected during the winter months in Minnesota and found that rabbits, mice, miscellaneous vegetation, pheasants, undetermined animal matter, poultry, squirrels, fruits, carrion,

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Wild Turkey Territory

By Edward L. Kozicky

grass, shrews, and pocket gophers composed 98.6 percent of the total volume.

Table 4 shows the contents of two scats collected during June 1942 in Centre County. Neither tables 3 or 4 represent a sufficient number of scats for conclusions to be drawn, but are presented for their interest value.

The depredation of foxes on game is probably at a minimum during the late summer and early fall. The heaviest predation on game probably comes in the nesting and brooding seasons. Incubating game birds have a tendency to "freeze" on the nest when danger approaches, which allows a fox to get within jumping distance. Sutton (1929) found a wild turkey that apparently was killed on the nest by a gray fox. Errington (1935) stated that the type of prey taken by the fox fluctuated according to the season, weather conditions, abundance and vulnerability of prey populations.

The results of the late summer and early fall food habits of the fox presented in this paper have certain definite limitations. During the fall of 1942 there was an abundance of walking sticks and mice on the study area. This abundance of food which was easily obtained by the fox may have acted as a buffer or substitute for valuable game species. The majority of scats were collected from a rather limited area of 30,000 acres. The results may have been different if opportunity permitted the collection of scats from a larger area of the forested sections of the ridge and valley region. The majority of the scats were collected in unbroken timberland. If more scats had been collected around fields a larger amount of small game, especially rabbits, may have been found.

Summary

1. The analysis of 186 fox scats collected in wild turkey range during the late summer and early fall showed no signs of predation on wild turkeys.

2. Scats were collected from a typical portion of the chestnut oak-pitch pine forest type group in the ridge and valley region of south central Pennsylvania.

3. An estimated 80 percent or more of the scats were gray fox scats.

4. The main late summer and early fall foods of the foxes in wild turkey habitat consisted of walking sticks and grasshoppers, white-footed and red-backed mice, huckleberry, wild grape, cottontail, white-tailed deer, black cherry, apple, gray squirrel, and grasses.

5. The results of the anlysis are limited in value by the relatively small area and type of country from which they were collected and the unusual abundance of mice and walking sticks during the fall of 1942.

6. Food habits of the fox vary with the season of the year and abundance of various prey species.

7. More research work is needed on the food habits of the fox during various seasons of the year under different prey populations and weather conditions.

(Continued from page 28)

TABLE 1.—Number of fox scats collected during various months in 1941 and 1942

Month	1941	1942	Total
September	0	36	36
October	8	105	113
November	4	33	37
February	0	1	1
March	0	4	4
June	0	2	2
	12	181	193

TABLE 2.—Analysis of 186 fox scats collected during September, October, and November in Huntingdon County during 1941 and 1942

Items	Times Occurring	Total Volume cc.	Percent Volume
Devil's darning needles or walking sticks and grasshoppers (*Orthoptera*)	135	2,518	37.8
White-footed mouse (*Peromyscus* sp.) and red-backed mouse (*Evotomys* sp.)	88	2,349	35.2
Huckleberry (*Gaylussacia* spp.)	54	719	10.7
Wild grape (*Vitis* spp.)	37	268	4.0
Cottontail (*Sylvilagus* spp.)	11	262	3.8
White-tailed deer (*Odocoileus virginianus*)	1	112	1.6
Black cherry (*Prunus serotina*)	11	98	1.3
Apple (*Pyrus Malus*)	10	89	1.3
Gray squirrel (*Sciurus carolinensis*)	3	95	1.3
Grass (*Gramineae*)	32	64	1.0
Ruffed Grouse (*Bonasa umbellus*)	3	62	.8
Chicken (*Gallus domesticus*)	2	30	.3
Hawthorn (*Crataegus* spp.)	3	30	.3
Acorns (*Quercus* spp.)	5	17	.2
Crow (*Corvus brachyrhynchos*)	1	10	.1
Leaves	7	*	*
Woody twigs	7	*	*
Butterfly cocoons (*Lepidoptera*)	5	*	*
Ruffed Grouse	5	*	*
Pine (*Pinus* spp.) leaves	4	*	*
Beetles (*Coleoptera*)	3	*	*
Gray fox hair	3	*	*
Blueberry (*Vaccinum* spp.)	3	*	*
Blackberry (*Rubus* spp.)	2	*	*
Woodchuck (*Marmota monax*)	2	*	*
Mountain laurel (*Kalmia latifolia*) leaves	2	*	*
Thoroughwort (*Eupatorium* spp.)	2	*	*
Sarsaparilla (*Aralia* sp.)	1	*	*
Chokeberry (*Pyrus* sp.)	1	*	*
Striped skunk (*Mephitis nigra*)	1	*	*
Ants, Bees, etc. (*Hymenoptera*)	1	*	*
Spicebush (*Benzoin aestivale*)	1	*	*
Horse bettle (*Solanum* sp.)	1	*	*
Tick trefoil (*Desmodium* sp.)	1	*	*
Porcupine (*Erethizon dorsatum*)	1	*	*
Composite (*Compositae*)	1	*	*
Unidentified animal material	8	27	.3
Unidentified insect material	7	*	*
Unidentified gallinaceous bird	3	*	*
Unidentified mammal hair	1	*	*
Unidentified vegetable matter	1	*	*
Unidentified passerine bird	1	*	*
*Trace		6.800	100.0



Photo by the Author.

Fox signs in the snow.

Build a Nature Trail

*By Carsten Ahrens**

Silhouettes by Begagy T. Benton



They staked out the entire plot.

"RANGER, I'm bored"!

I had stopped to pass the time of day with the chap who had just come to Rhododendron Lodge. The cabin was large, attractive, and modern in every detail; I couldn't see why the city man shouldn't be contented with his newly acquired property.

"We've been here two days," he continued, "I've arranged my work for this entire summer so that I can frequently come to the Lodge, and I'm tired of it already."

I looked about him. In the hammock, asleep, was his fourteen year old daughter. A boy of about twelve was lying on his back beneath a tree, lazily reading a comic magazine which he was holding above his face. The third child, a boy of ten, was teasing his terrier. I could see that the children were bored too.

So I suggested their building a nature trail. If they were planning to live in the mountains, they should become acquainted with their woodland neighbors. And since their plant neighbors couldn't come calling, why not build a path that would lead to them. Perhaps it was a sort of desperation that made them accept my suggestion.

Their ten acre plot was admirably suited to a nature trail, and we laid out the route with the greatest care. They decided that the trail should not be the one already constructed that led to the spring, but a new one that had no other utility besides plant knowing. It was considered important that the path should include as many different habitats as the area contained. There were six: an open forest, a thicket of witch hazel and other shrubs, an almost bare hill top, a small bog, a tangle of rhododendron near the stream, and the stream itself. They decided that no plant should be removed from the trail bed unless there were more of the same species in the vicinity. If a plant seemed rare, the trail would curve around it. By the time the man had to return to the city, he with the children had staked out the entire trail which, with several short side paths, must have been a sixth of a mile in length. During their father's absence, the children worked on the trail, laid stepping stones through the bog, made an opening through the thicket, and even began a rustic bridge across the impetuous mountain brook.

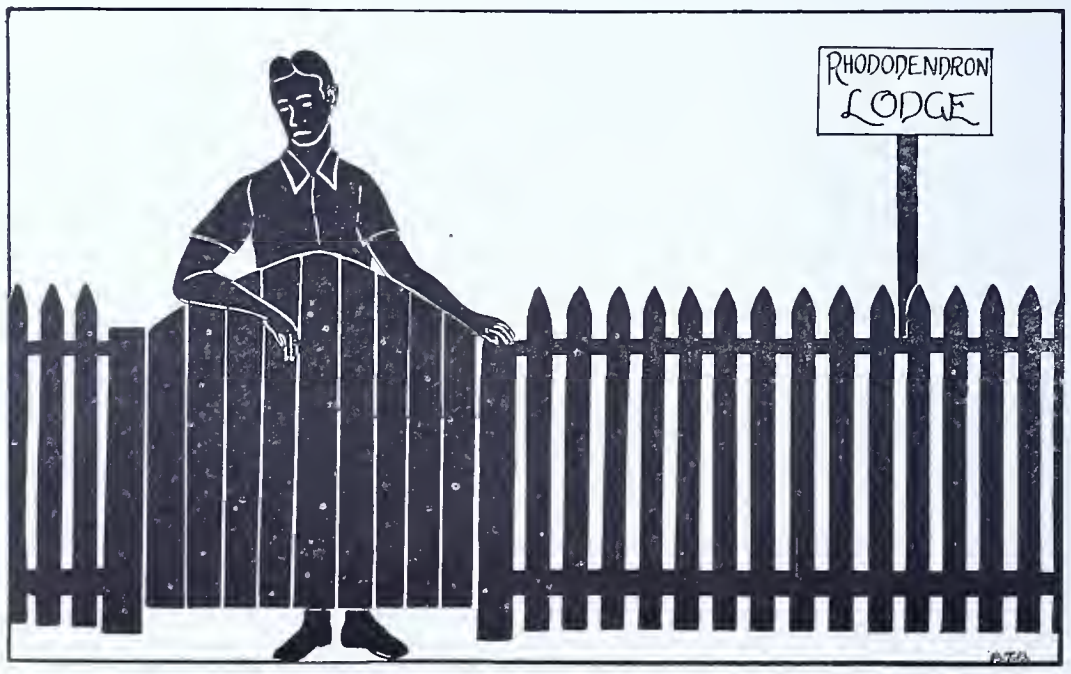
When he returned, the father brought several well-illustrated bird books, insect books, flower and tree guides, white paint, wire, India ink, pens, brushes, and a pound of short nails. They decided that every species of plant and tree should be identified twice . . . oftener if possible as a means of getting acquainted, and of showing the differences (often striking) between old and young plants. The tin was cut into different sized strips . . . many as small as an inch by two. These were painted white, and after drying, printed upon with the water-proof India ink. After a number of plants had been identified, and I had checked their identifications, John, the older boy, would print the name of the organism on the tin label. This would be wired or nailed to the tree, or in case of a small plant, the label would be attached to a stake driven into the earth near by. None of the strips were larger than necessary; they were placed in such a way that they did not give a cluttered appearance to the trail. In fact, a careless observer might have walked along the full length of the trail without noticing a tag. No label was hidden, yet none was obtrusive.

Very early in the labeling the question of names arose. The observation was made that all flowers and trees had two sets of names . . . a common name and a scientific one. Surely I wouldn't expect them to use the scientific one!

"Why not use the common name, but leave a little room for the scientific name if you wish to add it later?"

And, of course, later they discovered that many of the rarer plants had no common names at all, or that several common plants had been given the same common name. Before the summer had passed, John had added the scientific name to every tag. Below the names, John would print some

(Continued on page 28)



During the father's absence the children worked on the trail.

*Summer Ranger-naturalist at Acadia National Park.

CONSERVATION SHORTCOMINGS

By N. R. Casillo

Teacher Puts Blame On General Public For Not Grasping Its Full Implications

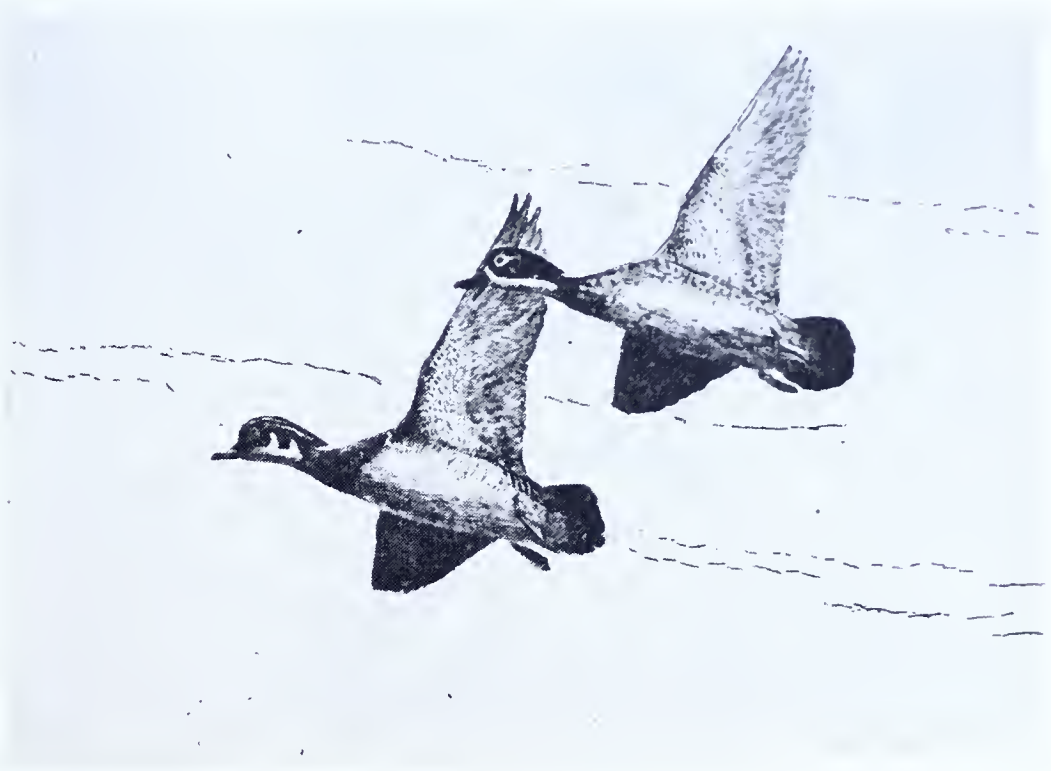
Reprinted from John Mock's column in the Pittsburgh Press

SIMPLY because the exigencies of war are daily disclosing weaknesses in our present practice of conservation, dozens of self-styled experts are attempting to explain why conservation has failed to make more progress than it has.

Some toss the "whole kettle of fish" into the laps of political groups comprised of individuals who flaunt conservation as bait designed for pulling votes into the old creel.

Then, there are those who place the blame on the lack of understanding, not knowing what this or that stands for or, more properly, not knowing what the aims of conservation really are.

Most of these critics would really be hitting closer to the bull's eye if they would point out that the average non-sporting group, and this includes the bulk of our population, believes that conservation is some mysterious technology affecting and concerning the sportsmen alone.



Wood ducks. Federal Duck Hunting Stamp design by Walter E. B. Bohl.

Erroneous Viewpoint Persists

Strangely, our so-called leaders of conservation have done little if anything, to dispel that erroneous viewpoint. "Sure," I heard a prominent local man say just as these flagrant disclosures were coming to light, "let the sportsmen worry about it. They make laws to save their game and fish so that they can shoot it tomorrow. Conservation, humph," he snorted.

He was referring to our system of game and fish laws. He contends that we shouldn't have laws. That not only the sportsmen, but every man, woman and child should be so conversant with the working principles of conversation that they would practice them as unfailingly as the average person observes the Sabbath. The idea is good, except that he is naive enough to believe that every one observes the Sabbath.

Perhaps, the aims of some conservationists are too lofty, shooting as they are, over the heads of most of those whom they are endeavoring to reach. This is entirely due to the fact that they are unwilling to divorce their concepts of conservation from the fish and game angle. Oh yes, they include other considerations, to be sure, but it all finally gyrates back to the sportsman and his pursuits. I, for one, am prone to do so. How many of you still remember that Pymatuning was originally a flood control project?

Well, now, the whole situation has gotten to the point where scarcely anyone understands what it's all about. "Forget about conservation for the duration," says some, "because it deals with the sportsman and his sport." Others are just as dogmatic when they declare: "We'll never starve because we have an abundance of game."

Here, we are being told to forget conservation on the one hand, and then being reminded of a fact that conservation helped to make possible.

Not Fully Aware of Implications

Books putting forth the sound working principles of conservation are legion. We are apparently well grounded in good conservation practices. Why, then, has it failed? It has not really failed. We as a people cannot whole-heartedly support anything unless we are absolutely sold on the soundness of the whole undertaking. We are not yet fully aware of the full implications of conservation.

Fish and game commissions, sportsmen's associations and similar groups have sponsored and fostered conservation to the point where the average non-sporting citizen as well as some of the sportsmen themselves, believe that sportsmen and conservation are inseparable, and therefore, is only important to hunters and fishermen. So, the antagonists reason, why should we squander both time and money on anything that does not directly deal with the war effort? They, therefore, conclude that the most feasible action at this time would be to throw conservation overboard for the duration. Some gaze yearningly at the Pennsylvania deer herd. The elk roaming the Jackson Hole country in Wyoming have been suggested as

(Continued on page 25)

March 29, 1943

Dear Fellow Sportsman:

Even if you don't expect to fish or hunt this year - BUY A LICENSE! And urge your friends and fellow club members to buy one too. No use kidding ourselves; war conditions are going to keep a lot of us "grounded" in 1943. And plenty of good sportsmen are in foreign service with our armed forces. But conservation work must go on if our sport is to be preserved for the future - and license fees are what pay the freight. So start the BUY A LICENSE Movement in your town by getting your own fishing license today.

Raymond J. Brown
Editor

OUTDOOR LIFE 353 Fourth Ave., New York, N.Y.

Ringtail



His shiny, sharp eyes peered from a broad head down over a pointy nose into the water at his feet to watch a minnow swim under a stone.

A SHORT-LEGGED, long-haired animal the size of a small dog stood in the shallow water on the edge of a clear, rock-filled stream. His shiny, sharp eyes peered from a broad head down over a pointy nose into the water at his feet to watch a minnow swim under a stone. With instinctive skill, a dark-fingered paw darted in to pin the tiny fish to the rock and then pull it wriggling from the water. Rearing back on his haunches the captor bit the fish in half with sharp fangs, holding the one half neatly in his paw and chewing the other in mincing fashion. The black-patched cheeks and the white brows, together with the long whiskers and the saucy little nose, gave the animal a mischievous, though somewhat lugubrious appearance. When he had eaten the fish, he walked out onto the bank and shook the water from his black-tipped gray coat and his black-ringed bushy tail, and shambled, bear-like, along the bank for a while before starting up the wooded slope above him.

The night was gone and day was brightening the morning sky as Ringtail, the racoon, climbed agilely up the rough-barked sweet gum tree to his arboreal home. In the darkness of his rough nest he curled up for his daily sleep, for he disliked the light and only descended from his tree when evening darkness settled over the woods and fields. His thoughts, as he lay there, were pleasant and sensuous. It was spring, almost summer, again. The air was warm and a light breeze rocked the big gum tree ever so gently beneath a deep blue sky. A few widely scattered clouds floated, light as milkweed floss, out of the east. A black squirrel chattered on a limb outside Ringtail's door, and a scarlet tanager sang his cheery greetings to the morning from the big black birch down the slope; but the big coon dozed peacefully; he was warm and sleepy and his stomach was full.

All day long he stayed in the semi-darkness of his den. The shadows lengthened and the air grew cooler and the sun dipped behind the pointed hemlocks that topped the western ridge. From the rocky hill across the river a whip-poor-will took up its monotonous chant; tree toads hummed like locusts; crickets chirped; close by a great horned owl hooted its weird warning to the little furred and feathered creatures who hid trembling in the forest; a red fox vixen yelped to her kits in the clearing above; and the breeze was an overtone in the leaves of the hardwoods and the lacy tops of the evergreens. This was the orchestration of the woodland dusk.

The summer passed swiftly. On hot, sultry nights the coon swam and splashed about in the cool stream in the glen, and prowled farther from his home, almost to the flat farmland that stretched westward from the ridge. He heard the lowing of the cattle in the pasture, the squawking of the fowls in the fenced henyard, the barking of the dogs, and sometimes the noises of the men. The sounds filled him with curiosity and he longed to go closer, but some deep instinct warned him that danger lurked here around the smelly buildings. His short memory might have reminded him, too, that here was the spot of his first terror on that fall night when Blackeye, his litter brother, had failed to return. He might have remembered the shouts of the men, the baying of the dog and the roar of the gun. But now his belly was full of wild cherries and pokeweed berries as he played a solitary game of zig-zag along the top rail of the split-chestnut fence. In the first gray light of dawn he returned leisurely to his den on the slope.

The nights were longer now, and the water of the run felt uncomfortably cold on Ringtail's naked feet. There was a nip to the air. The wild geese honked overhead as their queer wavering flight cut across the late October moon. Ice formed on the still pools. The leaves rattled down under their load of hoar frost from the gums and the birches and the maples. The tanager and the warblers flew off to the south. Only the great owl's hoot, the jaybird's squall, and the woodpecker's staccato hammering broke the stillness of the forest. Sometimes, too, the busy squirrels paused from their acorn cutting to scold noisily, or a buck snorted and rattled his gleaming new antlers on the saplings during the season of the rut. Ringtail was thankful for his warm new coat when the cold wind rasped through the dead leaves of the white oaks and beeches. He hunted harder through the lengthening dusk, putting rolls of fat along his rump and flanks and belly to carry him through the long sleep which was near at hand once more.



On hot, sultry nights the coon swam and splashed about in the cool stream in the glen.

More snow fell to cover the fallen logs and mossy rocks and to bend down the evergreen boughs with a mantle of white. He disliked the snow, and he dozed fitfully for days on end in his lair. Once or twice he climbed down and prowled indifferently along the creek, but the wet snow numbed his feet, and the few little crayfish which he caught did not begin to fill his belly.

Then came the great storm; it was time for the long sleep. Heavy dark clouds scudded low over the ridges out of the northwest, and the last tenacious leaves were torn from the oaks and beeches. Snow swirled through the forest, driven by the gale which drew groans of protest from the deep-rooted trees. The old dead chestnut where the gray squirrels lived gave up the hopeless struggle, crashing to earth with a rending and snapping roar that brought Ringtail to his den hole. The dazed squirrels scrambled from the riven trunk and scampered along the shattered limbs. Afterwards Ringtail heard them scratching along inside the gum.

The gale blew itself out, but the snow still floated down through the denuded branches of the hardwoods. For days the clouds hung heavy over the glen, merging the dull gray of the day into the inky blackness of the long night, until one night the clouds broke and a few stars blinked through the widening rifts, and the still cold came to stay. The winter sun rose without warmth and hurried along the southern horizon for a few short hours, and the bitter, star-studded night ruled the forest. The sap froze in the maples and the birches and, swelling, burst the wooden fibers with an unreverberating clap like a pistol shot. At the farm the hounds whimpered in their straw and the men bundled in great coats and felt boots and hurried through their chores to sit around the glowing pot-bellied stove to spin their yarns and smoke their pipes and spit into the fire. Occasionally they rose to peer at the thermometer on the shed wall, shaking their heads as the mercury fell steadily, to stop finally at thirty below.

Curled in a furry ball, Ringtail slept.

Spring broke the winter's grip in late February, melting the snow from the southern ridges and swelling the little stream to a flood, while the crows and the jays called raucously from the evergreens. Scrawny squirrels dug for acorns in the mouldy leaves to fill their shrunken stomachs. A red-backed grouse drummed in accelerating rhythm on the fallen chestnut.

By H. T. Wieand

Ringtail stirred. He awoke slowly to flex his sleep-stiffened muscles and crawl painfully to the mouth of his den and out onto the broad limb. The late afternoon sun warmed and quickened his stagnant blood. With evening he descended carefully, tail foremost, to the earth, to dig about a rotten stump for a grub to sharpen his dulled appetite. He poked down to the swollen creek and caught several crayfish, but he was not satisfied. A strange excitement held him. He found no joy in hunting, nor did food abate this new and tormenting urge that possessed him.

He hunted a mate. Up on the river hill he found her and pursued her and pestered her with a tenacity that could not be denied. Feigning meekness he nuzzled her furry neck and turned his other cheek to her annoyed snarls and nipping teeth. He stayed with her like a shadow, hardly bothering to eat or sleep, becoming thin and jumpy as within him the hunger grew more compelling. Success was inevitable. The hunger left him.

The days grew longer and warmer. Fragrant arbutus bloomed in sun-swept clearings; the Judas tree spotted the haze-shrouded hills with pink; buds burst on the birches and thorn apples; the tanagers and warblers sang again; and Ringtail, content and supreme in his third summer, ambled from dusk to dawn along the food-filled stream and the mud flats of the river.

He gave only an indifferent glance at the five pairs of twinkling eyes and the five black-cheeked and white-browed little furballs that suckled noisily at his busy mate and kept him awake with their snarling play. Fecund nature had used him and let him forget. He was glad when they were big enough to leave the den at dusk and forage for themselves, for then their night-long prowls left them no energy to annoy him as he slept away the day.

The summer passed pleasantly, while he spent the cool nights decimating the frogs and turtles in the glen. With nimble fingers he opened the hard-shelled bivalves and feasted on their succulent tissues; he gorged on the berries in the slashings; and undisturbed by man or hound he grew fat and fearless and careless. He never got enough birds' eggs, and spent more time nosing about the field shrubs and the brush thickets in the early dawn. He feasted once on the late hatch of the tanager, several times on ground sparrow's eggs, and once happened on a grouse nest just as the eggs were breaking. That had been a real feast in spite of the squawking and fluttering of the old birds which distracted him not at all.

Late fall brought the first disturbing signs of danger that quickened his dulled sense of fear and caution. The gaunt coonhounds bayed on the hills; men shouted; guns roared flatly across the ravines. He thought again of Blackeye and moved with care along his shallow stream. He avoided the narrow slab of shale-rock at the spring run where the steel jaws of the trap had leaped out of the water when he investigated a scent of tainted fish along the bank. Feeling the trap spring beneath him he had leaped frantically to the side. But for all his agility he had been no match for the springs of steel, and the cold jaws had smashed across the sensitive toes of his forepaw. He had lunged and pulled at the heavy sapling drag and snapped at the metal jaws that sent fiery pain through his short, thick body. Only after the little hemlocks and alders along the bank were tooth-scarred and torn and the once moss-covered ground bare, did he gain his freedom and limp to his den to nurse his paw and wait for the terror to leave him. He had been a cub coon then, but he did not forget. He had been too wary to let it happen again.

He was wiser now. His large frame was heavily muscled beneath the glossy, black-tipped pelt. No movement of the myriad creatures of the night escaped his predatory eyes.

Twice, with the slyness of the fox, he stole young chickens from their new roosting shed in the alfalfa field. Nipper, the canny little terrier, was gone, and the new dog was not yet wise to the stealth of his enemies. Emboldened by his success, the coon resumed his raids on the cornfield, where he tore the huskcovered ears from their stalks and carried them into the fringe of woods to feast.

Sated with food and dreamless sleep, and untrammeled by care, he ambled through the autumn-tinted woods and fields, a big coon now, skilled in the death-dealing wiles of his kind, supreme and complete in his mastery of the environment. Only the scent of man or dog disturbed his complacency, and then so infrequently as to be soon forgotten. He oozed confidence.

Thus it was that early one moonlit October night the men and the long-limbed hound crossed his trail on the rime-covered grass of the clearing. Quickly he took to the timber along the ridge as the deep voice of the hound and the hoarse shouts of the men told him that pursuit had begun.

He was not greatly frightened, for other men and other dogs had struck his spoor before and he, wise in the stratagems of escape, had quickly thrown them off. He had only to reach the stream in the boulder-



Once or twice he climbed down and prowled indifferently along the creek, but the wet snow numbed his feet.



Feeling the trap spring beneath him, he leaped frantically to the side.

strewn glen or bore through the vast rhododendron thickets on the precipitous river hill, for here the men could not follow in the stygian blackness. Their puny beams of light could not pierce the tangles of spiny greenbriars and wild grapes and deadfalls that interwove themselves into an impenetrable net. The hounds, hot on the scent, might follow slowly for a while, but soon the men would whistle them back, and Ringtail would slacken his pace along the tunnel-like game trail until the pursuit had died. Then, if the night was not too far spent, he might go on to the river to look for a mussel or a frog.

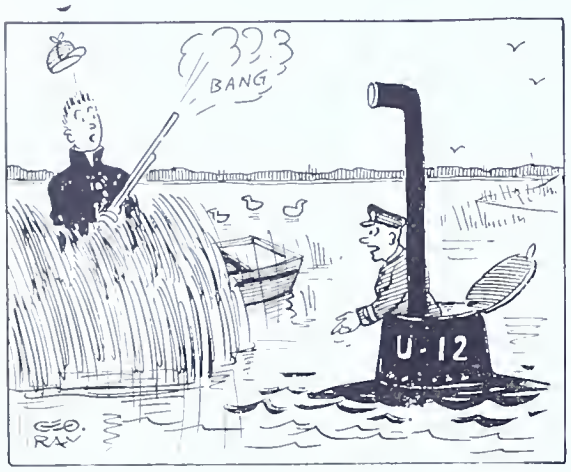
On this night he was farther afield than usual. He decided to make for the river hill thickets rather than the too distant glen, and to gain time by throwing the hound off the scent he "stumped" frequently at the big oaks and maples along his trail. He found a mischievous satisfaction in "stumping": running several feet up the bole of a tree to circle half-way around it and then jump far out to the ground on the opposite side, repeating the maneuver again and again on the larger trees as he came to them. The hounds, on coming to the tree, would think him treed, barking wildly until the men came or until they happened by chance upon his trail again many feet from the tree. In any case Ringtail would soon be far ahead and safe from pursuit.

So now, unafraid, and without undue haste, he "stumped" across the flat top of the ridge. For several minutes there had come not the faintest sound from the dog. Perhaps he had already lost the trail. He slackened his pace, unaware that he had at last underestimated a worthy and dangerous foe.

Pete, the rangy coonhound, was a cagey old veteran of the midnight chase. He had lost some of his speed and dash, but his great head retained the wisdom gained from many encounters with his wary prey, and a stout heart beat in his battle-scarred chest. His black ears were frayed and tattered; his single eye was not as bright as it once had been; and his dark muzzle was gray-fringed by the years. When still a youngster he had sprung a heavy beaver trap and shat-

(Continued on page 29)

Saying What You Mean When You Talk Shooting



"Seen anything of a battleship around here?"

*By J. Mowell Hawkins**

NOW that we are in this cruel war, those sportsmen who have inherited the love of shooting from their pioneer forebears, the men who had to brave and conquer a wilderness in order to build a nation, can well be proud of the fact that those ancestors possessed this natural heritage of the American people.

They should also be glad that, in a free country, they were allowed the privilege to indulge in their desire and urge to shoot and to teach others to handle shotguns, rifles, pistols and revolvers. Unprepared for war, this has been a godsend.

Defense and offense are now our greatest problems. The knowledge of how to operate and point arms expertly and correctly so that the bullet or projectile will hit the target, is imperative and will help to bring us victory. It is truly fortunate that we are a shooting nation, for our unpreparedness came close to voiding all American traditions.

Now that America is awake and we are determined to again crush the enemies of freedom, shooting has come to the fore—not only with our brave boys upon the battle fronts but with all of our forces, both abroad and at home. Consequently, all Americans are interested, and it appears to be a most propitious time to call attention to probably the most abused vocabulary in the English language, one about which more misconceptions are entertained by those who are not familiar with its ramifications than that of any other subject.

The shooting art is one about which more senseless, misleading and false statements are made than any other subject extant. Fish stories are tame when compared to shooting stories.

Recently one of our army officers was quoted as saying, "Anyone can learn to shoot in five hours." My five year old grandson heard this quoted and said, "That's right, he meant pull the trigger." Actually no one can even learn that properly in five hours.

I recall an instance when some friends stopped to greet me while another friend and myself were eating in a Pullman diner. They mentioned shooting. A New York lawyer was at the table. After they left he said, "You are a shooter. I never shot much but I was out once with a Flobert rifle and heard some shooting and found they were shooting clay pigeons at the traps, so thought I would try it. I shot 25 times without missing but I never had time to try it again." I said, "Using BB Caps?" He said, "Yes." Naturally we felt that he had just escaped from a lunatic asylum and were glad to get away from him.

Such statements immediately denote complete ignorance of shooting. It is surprising how many persons will tell such falsehoods, especially in regard to hunting. Many take particular delight in telling fabulous stories, relating marvelous exploits that make them appear ridiculous (to be charitable) to an experienced hunter and shooter. They are given their rating in the Ananias Club immediately. They will argue up and down that they have done or seen some one do a certain thing which you know to be impossible.

Magazine and newspaper writers and others who attempt to handle the subject, seldom give authentic information in regard to shooting, due to a lack of knowledge of correct gun and shooting terminology. Consequently, such writings bear little weight with gun lovers, sportsmen, dealers and others familiar with these terms. Correct nomenclature stamps the writer as qualified on his subject and worthy of consideration by his readers. I feel sure that everyone interested will welcome a little correct information upon the subject so that a better understanding may prevail in all matters pertaining to shooting. Certainly the more the general public can learn the better it will be for all concerned.

First, a few illustrations of common errors made by news writers.

1. I read in a national magazine recently a police report saying, "The man was shot with a .22 automatic revolver." Revolvers are not automatics, they are single or double action. A revolver is a pistol with a revolving cylinder which has several chambers. The term "automatic" applies to machine guns, carbines, rifles, and pistols where it is necessary to have the chamber and barrel integral so as to confine all the powder gases in order to operate the gun automatically if desired. Technically, these are only automatic loading, unless they continue to fire until there are no more cartridges left in the arm or it is stopped by the operator. Only in that case are they automatic arms. Otherwise, they are automatic only in their extracting, ejecting and reloading functions, and therefore are semi-automatic or self-loading.



"Lots of bear tracks Joe, wonder if we'll get to see any!"

2. "The man was wounded by the roaring blast of a shotgun fired from outside the house." The blast or report does not wound. Pellets of shot, a solid ball or slug, cause the wound. It is possible to receive a burn from a blank shell or cartridge which is loaded with powder and wad only, if the muzzle of gun is within a few feet.

3. I recently saw depicted an empty .38 caliber cartridge case described as, "The bullet which shot him." A cartridge case is not a bullet. A bullet is the projectile or foremost end of a cartridge and it is a perfectly harmless little piece of metal until it is placed in a rifle, pistol or revolver as a component of a cartridge which has been made from scientifically prepared components in accordance with its ballistic requirements. And when the trigger is pulled, the hammer strikes the firing pin which in turn hits the primer cap and crushes the fulminate or priming mixture between the rim of the head of the cartridge case if it is rim fire, or between the primer cap and anvil in primer, if center fire. This crushing causes a sharp, hot flash which ignites the powder charge, causes the gases to generate and to start the bullet from the casing and out through the barrel.

4. "The metal case of the cartridge was protruding from the wound." Obviously this was intended to mean the metal casing of the bullet, known as a "jacket," was protruding.

5. "He was shot with a .32 bore cartridge." He could not be shot with the cartridge. He was shot with a .32 caliber bullet. Caliber is the nominal diameter of the bore of the barrel expressed in the decimal part of an inch and is primarily used in reference to rifles, pistols, revolvers and their cartridges. Shotgun sizes are denoted in gauges determined from the number of lead balls of diameter equal to the bore of barrel contained in one pound. Thus, the bore of a 12 gauge barrel being .730", 12 lead balls of this diameter would weigh one pound.

6. "He was hit with a bullet from a .22 gauge automatic shotgun." There are no .22 gauge shotguns, rifles or pistols, but there are .22 caliber smooth bore rifles made for using .22 caliber shot cartridges. Shot, pellet,

(Continued on page 30)

* Shooting Promotion Division, Winchester Repeating Arms Company.

National Grouse Trials



Sky Bandit—1943 National Grouse Champion owned by George E. Sinclair, New Kensington, Pa.

1943's National Grouse Champion—Sky Bandit: Fifty-one pounds of radiating dog flesh—Nose, stamina, brains, style and conformation. A glorious setter!

Football and grouse trials are synonomous as far as weather is concerned—carried on despite the elements. A grouse trial is never delayed. Like a General Grant tank, it takes everything in stride. This certainly held true at the Venango Grouse Trial Club, Inc., and Pennsylvania Field Trial Club combined grouse trials held April 10, 11, 12, 13 at the permanent grouse trial preserve four miles west of Marienville, Pa., on Route 68. Nature really smiled Saturday and Sunday. It was sunny and the air was vaguely warm and clear; however, it rained steadily all day Monday, and Tuesday was accompanied by incessant snow, rain, sleet and snow, the trial being concluded late that afternoon in a heavy raging snowstorm.

The permanent grouse trial grounds again held a goodly number of grouse, but due to the freakish weather birds were seemingly jittery, flushing wild from the high evergreens although a number were on or close to the ground. The above conditions hold true many times in the Spring for other reasons than weather although last Spring was quite the reverse and much more consistent bird work was had. Some of these reasons can possibly be attributed to the time of year; the number of grouse killed close to the refuges by hunters, some in them by poachers; the large percentage destroyed by vermin; exposure and disease add its toll, although this number is at a minimum due to the hardiness of the grouse; the crazy cycle accounts for others, some committing suicide by deliberately flying into trees or buildings. Consequently the birds that are left, and as stated above they were in goodly number, are older, fairly well educated in the ways of hunters and vermin, and naturally become much warier and wilier at this time which very closely borders their mating season; then too, their feed has been snow and rain-soaked resultingly souring which effects a change in feeding habits. The chief advantages of a Spring grouse trial, taking into consideration the above conditions, are from a visibility viewpoint and freedom from the Fall dryness hazard.

War, priorities, and everything else did not seem to dim the ardor of the Pennsylvania bird dog man. They were there in real numbers with a royal entry in the Puppy and Junior All-Age stakes that broke all grouse trial records. It would be impossible to list the outstanding personalities present.

Due to war exigencies and for the sake of conservation the Venango Grouse Trial Club, Inc., and the Pennsylvania Field Trial Club decided to combine their Spring trials and a royal success it was.

Headquarters was the Bucktail Inn at Marienville, Pa., and host Regina did everything humanly possible to care for the immense attendance. His inn was filled by advance reservations; every room available in private residences of Marienville was filled; the adjacent villages and tourist homes cared for some, and some engaged rooms in nearby Clarion. Jack Applegate of Pittsburgh graciously lodged some of the overflow at the nearby luxurious Loleta Hunting Lodge.

The permanent grouse trial grounds have been portrayed before in these columns and I will not again describe them, but needless to say there are thirty-eight miles of prepared, brushed out courses, plus some additional extra series routes, all properly bridged for horses. A five year conservation and planting program is being followed as closely as possible, but being interrupted somewhat by war contingencies. This has borne fruit in the increasing number of grouse on the preserve.

The administration of these clubs is in the hands of capable officials and executives. Dr. Gail Kahle of Hadley, Pa. is president of the Venango Grouse Trial Club, Inc., Dr. Alton D. Vogan, Sandy Lake, Pa., is vice president and Sam Light, Punxsutawney, Pa., is secretary and treasurer. Directors are Harold J. Boulton, Clearfield, Pa., M. A. Carrop, New Kensington, Pa., John A. Brown, New Kensington, Pa., Forrest A. Galloway, Kennerdell, Pa., Joseph P. Shaffer, Leechburg, Pa., Dr. Don W. Briceland, Rimersburg, Pa., and Arthur L. Haight, Johnsonburg, Pa. The officers of the Pennsylvania Club are Arthur R. Guiney, New Kensington, Pa., president, Rich Tuttle, Keesler Field, Miss., vice president. Directors are Hon. Jared M. B. Reis, New Castle, Pa., George E. Sinclair, New Kensington, Pa., Fred Kay, New Castle, Pa., Joseph C. Williams, New Castle, Pa., and J. Clair Smith of Volant, Pa., is the secretary and treasurer of the Pennsylvania Club, and able and aggressive he is, having plenty of constructive initiative and courage with it all.

Bill Kuhns of New Bethlehem, Pa. provided the horses, the same fine animals used previously. They are ridden during the summer by the tourists in nearby virgin Cook's State Forest and are woods-wise and sure footed, far above the average.

The Pennsylvania Game Commission was represented by Supervisor Hayes Englert of Oil City, Pa., and Game Protectors Ed. Shaw of Leeper, and Carl B. Benson of Tionesta.

The judging assignment of the Puppy and Junior All-Age stakes went to Curtis W. Miles of Cleveland, Ohio, and Frank B. Fair of Mercer, Pa. Both proved extremely popular, their decisions were consistent, and it was unanimously agreed that they did an excellent job.

The arbiters of the National Grouse Championship were Dr. Harold D. Ersig of Toledo, Ohio, Frank B. Fair of Mercer, Pa., and Cash Vogan of Sandy Lake, Pa. Their task in all this bad weather was anything but pleasant. However, possessed of a lengthy and rich background of experience, courage, stamina and fortitude, they rode this stake out, keenly alert. Faced with an entry of some of the finest championship caliber grouse dogs ever assembled, every dog trained, groomed and tensed like a boxer waiting for the gong, theirs was a real task. They accurately diagnosed every situation, carefully eliminated the contenders, and with real courage run dogs into a fourth series before they announced their winner. Their decision was received with enthusiastic acclaim, and every one seemed agreed that the judges acquitted themselves in praiseworthy style.

Joe E. Grace of Grove City, Pa., was chief marshal, taking the place of Rich Tuttle who

(Continued on page 31)

The Mail Bag

THE MAIL BAG

April 13, 1943.

Pennsylvania Game Commission,
Harrisburg, Pennsylvania.
Gentlemen:

I was very much interested in the article by Mr. W. Gard Conklin on the Barrens in the issue of PENNSYLVANIA GAME NEWS for April. I have visited and observed the Barrens from time to time for more than twenty years, and in the past two years I have taken records of maximum and minimum temperatures in the main hollow near the old railroad bed in connection with a project on the study of the effect of low temperatures on horticultural plants. My own feeling is that the low temperatures reached are one of the chief factors in the difference in vegetation of the big hollow with that of the forested areas on higher ground.

The only large trees that I have observed in the hollow are either aspen or pitch pine, and a few native wild black cherries. Scrub oak and willows now make up a large part of the ground cover, although the willows are no where near as abundant as scrub oak. Likewise vacciniums, panicled dogwood, or hazelnut are all more abundant than the several species of willows. Some years ago there were large areas of grass and herbaceous vegetation. On the hilltops above this big hollow are white, black, scarlet, and chestnut oaks, hickory and red maple with a few white pines and other trees—the same type of vegetation that normally occurs in other forested areas in the surrounding country. The scrub oak is common where the fires have burned over the land recently, but it is eventually shaded out by the larger oaks which succeed it.

My records show temperatures in the main hollow below freezing every month in the past two years, even in June, July, and August. Minimum temperatures of 7° above zero were recorded for April 25 and for May 3 in 1941, and 10° for the period between May 6 and 18. A low temperature on June 11 of 22° caused the killing of the foliage of the scrub oak. As a comparison, a thermometer kept for a time on the top of the hill above this hollow gave minimum records similar to those in State College and other normal stations in central Pennsylvania.



HELP!

Some readers of the Game News like to keep each issue and subsequently have them bound; others don't care to save them, consequently they are usually sold along with old newspapers.

In the last several weeks we have had quite a few requests for extra copies of the January and February 1943 issues and have furnished them until the supply was exhausted. However, we are still getting more requests for these two issues and any reader who has them, and doesn't care to save them, will be doing some other reader a great favor if he sends them, and any other back issues, to the Commission.

The lowest reading of the thermometer in the Barrens during the cold wave of January, 1942, was 40° below zero; and the actual temperature may have been even lower, as mercury freezes at that point, and the column of mercury in the thermometer may not have moved after freezing. The younger shoots of the scrub oak trees were dead the following spring, but new growth took place in the spring from dormant buds on the older wood.

Other low temperatures of interest are as follows:

13° on May 11, 1942.
23° about August 25. Some damage to vegetation of scrub oak and ground plants was noted after this freeze.
12° about September 29, 1942.
8° during October, 1942.
-30° on December 21, 1942.
-27° during February, 1943.
-23° in early March, 1943.

These records are much lower than those reported for the same periods in such places as Kane, Lawrenceville, and Somerset, which are noted as being "iceboxes" of the State. Comparable minimum temperatures of the Barrens, State College, and some of the coldest points of the State are as follows:

	Barrens	State College	Kane	Lawrence-ville	Somerset
May 3, 1941	7°	33°		22°	23°
May 11-13, 1941	10°	34°		23°	21°
June 10-11, 1941	22°	46°	31°	33°	34°
January, 1942	-40°	-8°	-24°	-30°	-28°
May 11, 1942	13°	36°	25°	27°	35°
June, 1942	28°	46°	35°	45°	43°
August 25, 1942	23°	41°	27°		35°
September 29-30, 1942	12°	30°	19°	30°	22°
October, 1942	8°	27°	15°	28°	18°
December 21, 1942	-30°	-6°	-22°	-16°	-25°

In the freeze of May, 1938, the oak foliage in the Barrens was frozen over a wide area, even the large trees on all but the uppermost parts of the slopes being affected. In the hollow even wild cherries were frozen back, the only time that I have seen them injured. The scrub oaks are frozen back every two to three years, on the average, in spite of the fact that they come into leaf about two to three weeks later than those on the hilltops which escape the freezings. My contention is that the low temperatures are too severe for the oaks which grow in most other places in central Pennsylvania, and only the pines, aspen, and wild cherries, which seem able to withstand the low temperatures, can survive. That is probably the reason that they were originally *Pine* Barrens.

A possible explanation for the low temperatures is the blocking of the hollow by the Gatesburg Ridge, the only outlet being a narrow gorge through which the road passes. The cold air, which naturally settles on still nights into low places, draws into the hollow; but it is then dammed up by the Gatesburg Ridge, which prevents it from following its normal tendency to flow on out into the broader valley beyond.

A few items of interest in regard to bird life are noted. Yellow-breasted chats and prairie warblers are common in the Barrens (rarely observed in other areas) during the summer, and a few golden-winged warblers have been observed. These three species have very rarely, if ever, been observed in other localities within a number of miles of State College.

The ten-acre pond at Scotia, which is just outside the game lands, is often a resting place for migratory water fowl. Flocks of ducks and geese have been observed there at times, and occasionally a grebe or a loon. Several different species of herons have been seen there at one time or another, and catfish were at one time caught in the pond. A few large mud turtles as much as two to three feet in length have been found near the old ore hole at Tow Hill.

Very truly yours,
WILLIAM S. CLARKE, JR.
Department of Horticulture, Pennsylvania
State College, State College, Pennsylvania.



Photo by Leo A. Luttringer, Jr.

Left—Very large bear killed in the act of destroying livestock in Lycoming County. Game Protectors Leroy Gleason, Raymond Morningstar and Chester Siegel trapped this same animal in May, 1941 about 8 miles from where it was killed and released it on Refuge 507 along the Coudersport pike. Right—Was the rabbit hung on the wire after having been killed, or did it try to jump through and squeezed itself to death?

Wildlife Status of Fur-Bearers

By S. V. Sedlak

Intelligent understanding of the life of our wild animals can help to straighten up many of us along the road of wildlife conservation. At this time too, more than ever before we are reminded to conserve. The value of hitherto seemingly insignificant things is scrutinized more carefully. To evaluate anything properly, and for example let's take the price of fur-bearing animals, we should cross-examine some of the facts of importance.

I am not trying to convince anyone that I know all that there is to be known about fur-bearing animals. But the fact is that misleading assertions about fur-bearers have been made again and again in the past by fishermen and hunters, and statements of that kind have a tendency to be detrimental to others, such as trappers, fur buyers, the fur-wearing public, the fur-bearing animals themselves, and even game animals.

When it comes down to dealing with the nature of a wild creature, whether fish, game or fur, there is a very diversified picture to take into consideration. To say, for instance, that the fox is the "small game enemy, number one" and go on condemning the fox at length without regard for its meritorious usefulness—certainly, that would not make good sense. Nor would it be completely right for a vegetable gardener to look only on the destructive trait of the rabbit while most of us have a high regard for the cottontail for the sport and the food it furnishes.

The laws of nature hold the upper hand in everything that is wild. We can plot our ideas as we think, and do what we will, but in a final analysis it is the order of the Great Master that counts, and that suggests careful scrutiny in passing judgment on wildlife issues.

Every creature of the wild has been created for a purpose; we do not doubt that, but our intellectual powers cannot perceive the fullness of its purposes. Fur-bearing animals are, as the name implies, creatures that grow furs. The raw furs of these animals, if taken at the proper time, have a substantial monetary value. When sold to the fur markets these skins go through a process of manufacture that produces a high grade wearing apparel. From this standpoint alone we can assume that the first purpose of the fur-bearing animal is its usefulness in producing raw material for clothing the human body.



Photo by A. Ewart.
A season's catch of foxes and minks in Northern Pennsylvania.



Photo by the Author.
A boy trapper, some of his catch and his "trapper's" shack.

Other purposes differ more or less. Let us diagnose them. A number of folks are disposed to believe that the predatory aspect of some of our fur-bearers is a thorn in our side. Trappers regard that belief as one of the silliest dreams of modern times. It is an absurd supposition conceived by fairy story writers originally, and fostered and propagated more recently by wrongly informed outdoor enthusiasts.

If any species of wildlife goes too far over the natural balance then nature steps in at the proper time to effect a correction. For instance, if rabbits become too plentiful their ground enemies help to control them. And, of all our fur-bearing animals the little weasel is probably the worst enemy of the rabbit—not the fox. Trappers have frequently found dead rabbits in the woods which bore the telltale marks of the weasel's killing technique—a hole in the side of the rabbit's throat at the jugular vein. And, if perchance a fox came by later and its keen nose detected the carcass of the rabbit it would be one more rabbit for the fox in just about any way that you want to look at it. But weasels do not kill every rabbit within their reach or within their environment even though they may have the ability to do so. They are mighty for their size, are as fast as anything in the woods, and can reach into the smallest crevices of the earth as well as into the uppermost branches of a tree. They not only destroy a great many rabbits but many of the smaller and highly prolific rodents of great and alarming magnitude if it was not for the destructive power of the weasel. Accordingly, we must regard the weasel as a necessary link in Nature's chain.

Weasels have their natural enemies, too. Any animal that the weasel attacks will fight back if it has a chance at all, as in the case of the rabbit. Foxes and minks and some of the flesh-eating birds destroy some weasels, and I have heard it said that weasels sometimes destroy some of their own kin.

Foxes get their share of the rabbit population also, but the fox, because of its size, has a very decided disadvantage in dealing with the rabbit. I am quite confident that much of the rabbit flesh which foxes consume are "left-overs", although it goes without saying, there is a lot that isn't. In the wintertime foxes may go along on an empty stomach for days at a time. If too pressed by hunger they can usually find and dig out frozen apples or other wild fruits to tide them over until they can procure more nourishing food. Man can go along without food for as much as a few weeks if necessary and, certainly a wild animal can do the same. There are available foods in the woods even in the toughest periods and foxes, as well as other fur-bearing animals can always manage to provide for themselves.

It is a fact, too, that raccoons have a share in the depredations on rabbits and other small game. The raccoon is most destructive in the Spring and early Summer while the nesting period exists and while the small game animals are still in their infancy, so to speak. The raccoon, like the mink, also does a lot of foraging in and along the shallow waters of the creeks that contain aquatic life. A common supposition is that these animals

(Continued on page 32)

☆ ☆ WITH THOSE IN THE SERVICE ☆ ☆

"The past two days I was pleasantly surprised by receiving the February and March issues of the GAME NEWS respectively. I immediately turned to the sections, 'With the Boys in the Service,' and, 'Field Notes.' These columns are just like so many letters from home, especially in Dark Africa. I was also immediately reminded of the fact that I have been non-cooperative during these past months and had better 'get on the ball.' My silence was not intentional, but rather a matter of circumstances. This long-expected trip was postponed week after week until it amounted to seven months. Now I can't say that I'm sorry it worked that way.

"I'm not allowed to tell you when our outfit landed here, but I may tell you that it corresponds very closely with the time that Rommel began his sudden withdrawal. All I had to do was to flash the newly-published African Bag Limits to the boys and announce a Predator Contest (like the one we had at The Game School) and they were ready to win the prize. The latest reports show that the winner will have plenty of competition and the members are growing rapidly, now that the cruising radius of this vermin is gradually decreasing. It is hoped that very soon the Axis can be permanently removed from the list of Unprotected Species and we can return to our normal way of life, conservation.

"This may sound like I don't care very much for Africa. There is only one answer for this after having once lived in Pennsylvania. All in all, I can't afford to complain. So far I've been able to keep warm, get enough to eat, and a good place to sleep—considering the location. After this great buildup, I wouldn't be able to sleep, if I didn't break down and admit that I'm still doing the same type work which I did in the States. This doesn't sound very glorious. I'm just warning you, so you won't expect too many heroic stories when I am able to join you again.

"This isn't much of a report but I do want to thank you for keeping the GAME NEWS coming. This helps tremendously in warding off the only disease for which we don't receive injections, homesickness. The columns I referred to is an excellent idea to keep us informed, since it isn't physically possible to write to as many friends as I prefer to think I have. My thoughts are frequently in your direction and I want to send my Convoy of Best Wishes to All. Thanks again for the GAME NEWS.

CPL. DAN FACKLER.



Photo by the Editor.

George W. Koehler, Army and "Bud" Greenwood, Navy, holding two orphaned bear cubs which were turned over to Earl Greenwood at the Loyalsock Game Farm, Lycoming Co. recently. Because the little fellows had conspicuous perfect white V's on their chests they were named the Victory Cubs—one Roosevelt, the other Churchill.



Pfc. Louis D. Mostoller

"Now for the personal end. I am stationed in the northern part of Illinois, about 15 miles north of Chicago. I am at the primary radio station of the ninth naval district located right on Lake Michigan. This is no military secret although the traffic we handle is. It is mighty interesting work. We get all the news first hand without any embellishments or delections. My mail was addressed to Two Rivers, Wis., so I guess that I didn't keep you so well aware of my whereabouts. Here is the story of my military life. I enlisted on the 21st of April, 1942 and was sent for "boot" or recruit training to Curtis Bay, Md. Then I was sent to Two Rivers, Wis. I left there in August enroute to Atlantic City, N. J., where I spent six months at a radio school. That really was a tough grind. The work and the studies were not hard but it was the idea that I was indoors all day and night long. There were some days that I had only ten minutes of fresh air the whole day. That was a big change from the system we had at the good old Pennsylvania Game Commission Training School.

"The nine months at the PGCTS went twice as fast as the six months at the radio school. I say that those nine months were the most profitable and enjoyable nine months of my life. I can hardly wait for this war to be over if only to hear the stories that will be told when the boys get back from the service. I bet there will be some dandies. I was sent up here after I graduated from the radio school. This is more training for sea duty. I was supposed to have been out to sea last month but the orders were changed somehow or another, so I'm still here.

"The weather here is nice but that is just about all that is. There are absolutely no trees here nor even fields. The only wildlife I see is the sea gulls. Of course, I see a lot of wildlife in Chicago, but we won't go into that. I saw a sparrow hawk the other day and sure was surprised. There were some ducks, blacks and mallards, here until it started to get warm. Now, once in awhile I see a merganser. The land is as flat as a mackeral. I am holding my breath

(Continued on page 31)



Lieut. Robert S. Lichtenberger

Grease for the Axis

(Continued from page 3)

The following information was recently made available by the U. S. Fish & Wildlife Service on the number of deer and elk hides collected by other big game states and channeled into the leather trade during the 42-43 season; Arizona, 1,800; Colorado, 5,000; Maine, 10,000; Maryland, 80; Massachusetts, 1,000; Michigan, 20,000; Minnesota, 35,000; Mississippi, 283; Missouri, 9; Montana, 7,500; New Hampshire, 4,000; New Jersey, 584; New Mexico, 102; New York, 8,000; Oregon, 3,660; Texas, 1,100; Utah, 20,450; Vermont, 3,000; Washington, 6,000; West Virginia, 501; Wisconsin, 25,000.

When analyzing this information there was some doubt in your editor's mind if the figure in each case represented the skins actually salvaged, or whether they were estimates made of the number of animals that would likely be killed and subsequently salvaged. This is no criticism of the Fish & Wildlife Service's efforts to acquire the information, nor of the states which furnished it. I mention it merely to remind our readers that our figures are low compared with some really high ones, which seems unusual, especially since Pennsylvania is one of the leading deer states of the country. By next Fall most states should be in a better position to foster campaigns of this kind, and the deer hunters, trappers, fur dealers, and rendering plants in Pennsylvania should do their utmost to better their record.

These groups entered into the program with a great deal of enthusiasm last Fall. It is true that some disposal plants were handicapped due to tire and gas rationing and could not pick up carcasses in all instances—a condition we hope will not exist during the coming season.

When I learned what the potentialities of a fat saving campaign are, not only in terms of fur-bearing animal fats but in kitchen fats, I was astonished. I mention kitchen fats also because I believe our fur dealers have set an outstanding example of what can be accomplished when we all pool our interests and get behind the program.

Many of our housewives have been too little concerned about saving kitchen fats, thinking no doubt that their small contribution would not amount to much from the standpoint of winning the war. However, pool the fats saved in all the kitchens of the country in the course of a year, and you will have to let your imagination run rampant if you want to even hazard a guess as to the number of block busters, or rounds of other high explosives that would result therefrom. The figures would stagger you, and the Axis.



GAME COMMISSION HONOR ROLL

Lt. Col. Nicholas Biddle
Lt. James N. Morton
Lt. Richard Gerstell
Lt. Gilbert L. Bowman
Lt. David R. Titus
Lt. R. E. Latimer
Lt. Henry H. Schell
S/Sgt. Robert D. McDowell
Sgt. William C. Grimm
S/Sgt. Jackson S. Kepner
Sgt. William A. Miller
Sgt. James L. Latimer
Corp. Roy W. Trexler
Corp. Daniel H. Fackler
Sgt. William R. Overturf
Pfc. Robert D. Reed
Pvt. James S. Arthurs
Pfc. Joseph L. Budd
Harry W. Defina, RM3c
J. S. Kelsey, S2c
Corp. George W. Koehler
Lieut. Robert Parlaman
Pvt. George W. Levis
Corp. M. L. Shaffer
Pvt. Albert A. Wargo
Pvt. A. C. Ganster
Pvt. John S. Shuler
Pvt. Herbert P. Kaufman
Pfc. William R. Schaffstall
Pvt. John D. Beule
Pfc. Louis D. Mostoller
Lieut. R. S. Lichtenberger
Lieut. Nicholas M. Ruha
John I. Buck, G.M. 3/c
Ralph E. Flaugh, PhM1c
C. G. Krieble, P3/c
W. A. Moyer, C. Sp. (G.)
George B. Smith, P.O. 3/c
Lieut. H. C. Kornman
L. B. Welch, S.O.M. 3/c
WAAC Catherine Miles

★ ★ ★ CURRENT TOPICS ★ ★ ★

In Memoriam

The entire Commission mourns deeply the passing of another beloved fellow worker—Game Protector Philip H. Melching, of Lebanon, who died suddenly at his home on the evening of June 9 from a heart attack. He was 46 years old last October 15th.

On November 1, this year, "Phil" as he was affectionately known to his brother officers and his many friends, would have served continuously for 13 years with the exception of one year, October 1940 to October 1941, when he was on leave in the Military Service with the rank of Captain.

Officer Melching had been active in the National Guard for many years. He was retired from military service because has was over the age limit, and seemed to be in excellent health when he returned to duty with the Commission. However, a few months later he was stricken with a heart attack, but apparently had recovered and was getting along nicely with his duties.

It will be recalled, however, that he was badly injured in an auto accident near Selinsgrove in the Fall of 1935, in which a brother protector from Delaware County was killed. That injury caused him untold grief for many months.

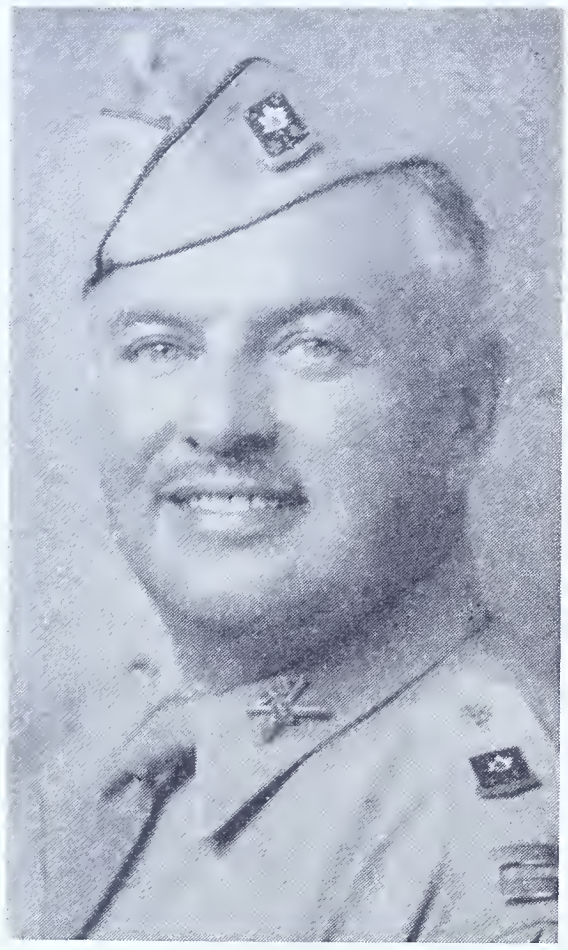
Through his passing the Commission has lost one of its most faithful and efficient employes, and all who knew him will greatly miss Phil's ever friendly personality and good fellowship. He is survived by his wife, Mrs. Elizabeth Melching, to whom we extend our deepest sympathy.

Four organizations were present to pay final homage to their beloved comrade and brother—Masonic rites were held at the cemetery while uniformed representatives of the American Legion, the Veterans of Foreign Wars and the officers of Division "A" in full uniform stood at attention. Three shots were fired over his grave as the last sound of taps echoed over the countryside that he knew and loved so well.

S. W. Yingling, Secretary of the Greencastle Game and Fish Protective Association, recently forwarded a list of 92 members of the club who have signed up for the GAME NEWS. In commenting on his action he said in part, "Greencastle for many years had an association, but it practically died a slow, lingering, inactive death, as so many organizations of this kind do when the members are not kept in touch with what is going on.

"The writer and a number of the old members got together, talked the situation over and decided to reorganize. We also decided that each member must receive either the GAME NEWS or the *Angler,* so he could be kept informed on what the State is doing for him.

"We decided the dues should be enough to that the association could pay for the subscription for either magazine. In this way there would be no lapse in subscriptions, and each member would be able to keep in touch with what was going on. I feel that these magazines have done more to keep the boys pepped up than any other influence.



Capt. Philip H. Melching

"We also make a practice of keeping a record of all plantings, the place they are planted, and the kind of game or fish planted. This information is given to the members at the first meeting held after planting. In this way they realize that they are receiving something for their membership and license fees, which helps a lot to keep up their interest.

"We have 157 members—92 subscriptions to GAME NEWS and 64 to the *Angler.*"—The secretary receives a complimentary subscription.

The Saint Marys Campowners Association carried out a very successful feeding program last winter. Feeding shelters and feeders were built and much feed was distributed for small game. Some cutting of browse was also done for the deer, which came through the winter in good shape in spite of heavy snow and severe cold.

On three different Sundays the members and the local Game Protector pruned a total of over 400 wild apple trees and distributed 1,000 pounds of ear corn. The work was done in the Trout Run and Wolflick Creek districts where many wild apple trees are found. The trees were thoroughly pruned, thinned and released. Where trees were too dense, part was cut out, sucker growth cut off, and all other trees that crowded the apples were cut away.

Later observations showed that deer had cropped the ends of the cut branches back to a thickness of one-fourth of an inch in diameter. The bark was eaten by rabbits where there were any of these popular small game animals.

It is expected that the work done will provide much additional feed in the future for bears, deer and small game. Many of the trees had been badly broken by bears in the past, and dead, broken branches had to be cut out. The club plans to prune each year until all of the trees are bearing more and better feed for game.

The Campowners association was primarily organized for the protection of camps owned by members against theft of equipment and other acts of vandalism, and has been very successful. Only one instance occurred where a camp was broken into, and in that case the guilty ones were captured.

During the last few years the association has cooperated in many ways with local officers in improving game conditions, and purchased and released game for stocking purposes.

There were 38 members out for the work, and all were of the opinion that these days were not only well spent, but full of fun. It was decided to observe fruit grown during the coming season and if any of it is undesirable for game to attempt a program of grafting suitable apples on these trees.—Game Protector Edward L. Shields, District E-6.

The other day I received a very cleverly prepared handbook from Abram Hershey, Secretary of the Lititz Sportsmen's Association, listing the activities of his club for the past ten years. Mr. Hershey undoubtedly spent considerable time and effort in preparing the little brochure, which is a credit both to him and to his organization.

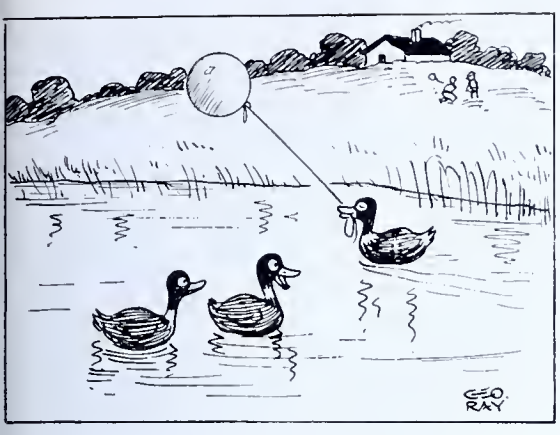
During the ten year period the club distributed the following game: 642 cock pheasants; 465 young pheasants; 210 quail, 2,192 rabbits and 25 grey squirrels, and erected 72 feeding shelters and distributed 41½ tons of ear corn and grain. In 1941 it established a wildlife project consisting of 517 acres, the first in Lancaster County, and each year during October it distributes over 1,000 safety zone signs to landowners.

Fish stocked included 14,212 brown, rainbow and brook trout, 2,100 bass, 20,540 fingerling trout and 25,588 catfish, sunfish and bream.

It maintained an active legislative, education, and entertainment program and participated in numerous civic affairs.—The editor.



"Did ums loose ooose Muver?"



"The lazy Bum! Since he found that balloon he hasn't swam a stroke!"

A SOLDIER'S DREAM

From Halifax (Pa.) *Gazette*

I shall always remember spring-time at home,
Though I be far or near,
For to me it is always the rarest
And most beautiful time of the year;
I would like to be home this spring time
To hear the first robin sing,
To gather the fragrant wild flowers
That to the steep hillsides cling.

There's a battered straw hat and a fish-pole
All neatly laid away,
But I haven't seen the last of them,
It's just till some other day.
By the gate stands a shaggy dog who looks
Up the road the whole day long,
It's time for that romp in the clover,
And he's wondering what can be wrong.

How I'll miss the old home town this spring—
The cries of the children at play,
The smell of fresh earth, the sunshine
That gleams through the long bright day.
The vine-tangled wall, the swimming hole,
A sweet scented blossomy lane.
The star filled night, the gentle delights
Of a walk through the park in the rain.

These things I miss with all my heart,
And each night in my prayers I say,
"Dear God, hear the plea of a soldier,
And grant his return some day."

S/Sgt. Herman F. Kinter,
Med. Det. 910th F. A. Bn.,
Shreveport, Louisiana.

Says John Mock in *The Pittsburgh Press,*

Trap and skeet shooting organizations blanket the country, numerous members getting all their sport in the shooting of clay targets. As such, they are not included among those who buy a hunting license. The same applies to the hundreds of thousands who primarily are pistol shooters.

Compare this situation in the United States with that which faced England and many of the other European nations when the Nazi juggernaut ran over their country.

Had it been left to the anti-gun cranks, who for years have been determined to disarm the citizenry, the citizens of the United States would have been in much the same position.

Fortunately for this country the officers of our armed forces have found that among the recruits, 85 per cent (who have had previous experience in using firearms) are quick to learn. In a very short time they become adept at handling such weapons.

NOTES FROM THE FIELD

While patrolling the Caledonia Pike on March 18, I saw quite a big buck that was still carrying a large rack of antlers. He was with five does. I saw him twice that day. I thought it was unusual for this time of year."—Game Protector Frank E. Couse, District 10, Division "E".

"While Mr. Null was trapping on State Game Propagation Area A-3, he caught three foxes, two red and one grey. After skinning them he cut them open and much to his surprise found that instead of trapping three foxes he had trapped *twenty-six.* One red had nine young, the other eight; the grey had six. The reds would have probably dropped their young in about a week or two. The grey pups were not nearly so well developed."—Game Protector John P. Eicholtz, Districts 9 and 13, Division "A".

"On the morning of March 25 while filling my truck with gas something that looked like a bird passed within two feet of me. I thought little about the incident until the second one passed and alighted on a large oak back of me. Walking over and looking up I say a flying squirrel. Hearing a noise in a squirrel box in front of me I saw three more flying squirrels leave, go to the top of the tree and take off, gliding to the large oak back of me.—Game Protector Raymond E. Holtzapple, Group 1, Division "A".

"A white weasel was seen in the home of Mr. Dillinger, Mt. Pocono. Mr. Dillinger shot at the animal as it made a lunge for a dark corner of the cellar. When he picked it up he found that he had also killed a large rat. The weasel was probably attempting to kill the rodent when fate came to both. . . .

"Mr. Christman of Pocono Lake found that a mink can sometimes be a very regular caller. In the latter part of January one killed ten chickens in one night. The following night he killed eight more. The chickens were all of the large variety, weighing about 6 pounds. The third night the animal left its foot in a steel trap. On the fourth straight night it returned on three feet and was chased away when the Christmans heard the commotion in the hen house. Mrs. Christman canned all of the unfortunate birds."—Game Protector Paul L. Failor, Group 2, District "B".

"A number of deer were killed by dogs this past month and as a result it was necessary to kill some dogs and to call on their owners. I found that many of these dogs were owned by men now in the armed services and the persons with whom they left them failed to give the proper care and let them run at large."—Game Protector James A. Osman, District 2, Division "C".

(Continued on next page)



Music, Bugle, and Trumpet—3 beagles belonging to John Millington, 16 year old ardent hunter and outdoorsman of Philadelphia, Pa.

Current Topics



Kane nimrods find the shotgun is the answer to the house cat problem in nearby forest areas. The five cats pictured above were killed in one night on a forest road several miles from a home or farm. All had either killed or were stalking rabbits.



Members of the Spigelmeyer camp in Juniata County enjoying an afternoon cleaning up around camp. Reading left to right back row: Dice Hood, John Ernest, Max Manbeck, Jr., and Pvt. Warren Stump who is now in the armed forces. Front row: Rodney Hambright and Ben Hower.

Notes from the Field

(Continued from page 21)

"While traveling along Route 68 (Butler County) a crow flew across the road in front of my car and landed in a nearby field. I saw that it was carrying something, so I stopped the car and ran towards the bird. It flew away and left what it had been eating in the field—a small rabbit apparently a day or two old. I went towards the field from which I saw the crow fly and tried to locate the rabbit nest to see if the bird had killed all the young, but could not find the nest."—Game Protector George W. Miller, District 14, Division "F".

"Fred Whitsel from Cromwell Township, was hunting foxes on Jack's Mountain on March 17 when his dog was bitten by a rattlesnake, which his companion killed. It had seven rattles and a button."—Game Protector Walter M. Thomas, District 6, Division "D".

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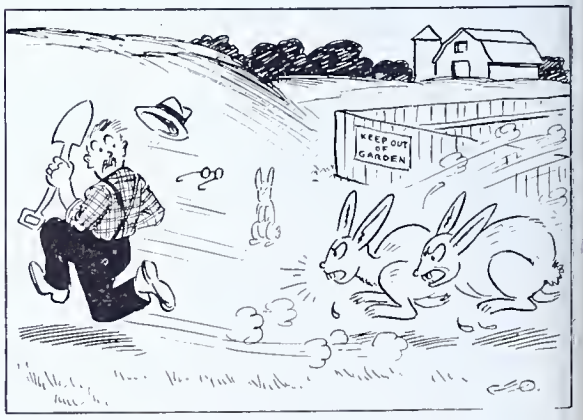
"On Wednesday, March 10, 1943, a very unusual incident happened in the town of Tunkhannock when a yearling buck wandered into the business section of the town. Everything was going along smoothly until the animal happened in the rear of the Gay-Murray Hardware Store. Here it was first discovered and when one of the clerks stepped out to get a good look at the animal, it became frightened and, in trying to make its escape, jumped into the back of a pick-up truck parked near the store. After righting itself from the truck, it crossed the street and attempted to escape through Sheldon's Garage back lot, but in doing so failed to see a wire fence, which it ran into and broke its neck."—Game Protector Harold F. Harter, District 4, Division "B".

"To a Pennsylvania white-tail doe belongs the honor of being the first deer, to our knowledge, to ride a jeep.

"On the night of April 9, 1943, the crew of the Steamer Coal City discovered a deer swimming near the shore of the Ohio River at Sewickley. Some boys were stoning the animal and it was nearly exhausted. As the Steamer approached the shore the boys fled. The deer was placed aboard and taken to the U. S. Coast Guard Base at Sewickley. I was on patrol and unable to get back in time to release the animal. However, the boys at the Coast Guard Base put the deer in a jeep and released her in the woods near Coraopolis. The last seen of her was a wave of her flag as she ran through the woods, apparently none the worse for the experience.

"Before enlisting in the service I was a Deputy Game Protector working under District Game Protectors Stainbrook and Mostoller."—Charles R. Williams, Petty Officer 3rd., U. S. Coast Guard Base, Sewickley, Pa.

"Friday morning, April 23, I heard my telephone ring long before daylight. Upon answering it I heard a voice on the other end exclaim, 'I just killed two deer.' Upon further questioning I learned that he had had the misfortune of hitting them on the highway. After getting the route number and the approximate location I proceeded into the mountains. When I arrived at the scene I found a large doe and a young buck lying by the side of the road. The evidence of rubber on the highway indicated that the motorist had tried to stop."—Game Protector Lester E. Sheaffer, District No. G-14, Division "G".



"I didn't know one felt so powerful after eating spinich!"



"Living by the train yards is bad for Junior. Instead of Hoot Hoot he says Toot Toot!"

"On Friday, April 23 about 3:30 p.m. I was fishing in Fulton County along Big Roaring Run when I came upon a large blacksnake about six feet in length, lying near the stream. I noticed it had several lumps on it, and upon killing it I found three grouse eggs it had eaten."—Deputy Game Protector, Robert H. Port, District D-9, Division "D".

"I had a peculiar complaint this week. A school teacher living away from her home except week-ends found, upon her return, that a ringneck hen had flown through a large window without injury and by the evidence had spent the entire week roosting on her davenport. She or her father asked $10.00 for window repair and damage."—Vern A. VanOrder, District No. 1, Division "F".

"While the various species of game were being released in York County, I was greatly pleased to see the interest shown by the fellows who were home on furloughs. Nearly every time I had some game to be liberated there was at least one soldier or sailor who came in with one of the various clubs. In talking to them I found that they are very much interested in our carrying on while they are away. One fellow in particular expressed his sentiments a little more strongly, he said 'Hell, that's what we are fighting for.' Some of the so-called sportsmen at home can take a very good lesson from this young fellow."—Game Protector John P. Eicholtz, District 9 and 13, Division "A".

"While releasing quail on April 3, in Oil Creek Township, I had the opportunity of seeing a Cooper's Hawk in action. I had just released about three pairs of the bobwhites when I noticed a hawk flying directly toward me. I made a dash for my car to get my gun. Before I could reach the car the hawk had neatly picked a quail out of a nearby tree and disappeared into the woods. It was especially interesting to note the reaction of the remaining quail. They flattened themselves on the ground and were perfectly quiet for several minutes, even after the hawk had disappeared. Inasmuch as these quail were raised at a game farm, their hereditary instinct and recognition of danger was remarkable."—Donald E. Miller, Game Protector, District No. 6, Division "F".

"While hunting deer last December, Harold Bonawitz of Borie, Potter County, followed some bear tracks in the snow, which seemed to disappear and very soon came face to face with a live bear "holed up" for the winter. Bruin had dug a hole in a large knoll about the size of a bushel basket. On February 20, he visited the den and found the animal in full hibernation. Having heard that bears leave their dens about March 15, he again visited the scene, at which time he discovered two small cubs about the size of a quart jar in the hole with the old bear. Several curious sightseers visited the den on this date which disturbed her so much that she left the den. Several people who were near the den in the evening heard a noise coming through the brush and left at once for parts unknown, for it was at this time that she decided to return for her family. Evidence of tracks in the snow the next day showed that she had made two trips back to the den and carried the two cubs across a ravine to a side hill that was free from snow to a new location. Several experiences of this kind in past years has shown that once a mother bear is driven out of her den she will not return to the cubs again, and in several instances the youngsters have frozen to death. This is the only time that I have ever known a bear to move her cubs to a new location. Bears found in hiberation should not be molested."—Game Protector Arthur G. Logue, District 3, Division "E."

"Mr. Emerson Reece, Orangeville, R. D., trapping in Sugarloaf Township, Columbia County, caught a beaver weighing about 38 pounds. The animal had no front legs nor any sign of ever having had any. It was in good fur and good flesh."—Game Protector Mark L. Hagenbuch, District 10, Division "C."



Photo by John Coach.

Members of Hawk Rod and Gun Club plant evergreens to reforest barren hillsides and subsequently halt erosion and provide cover for wildlife.



Dwellers in Darkness

(Continued from page 5)



Bats by the hundreds hang in a few Pennsylvania caves and mines as they hibernate during the winter when the insects which they need for food are not flying. This colony is in Aitkin Cave.

largest colonies were in the unfinished, abandoned tunnels of the old South Penn Railroad. During the winters just prior to the completion of these tunnels as part of the Pennsylvania Turnpike, I banded many of the bats in the Kittatinny and Blue Mt. Tunnels. When spring came the bats left these commodious hibernating quarters and probably scattered widely over the countryside. At least we know that one of the bats flew 50 miles eastward, into Lancaster County where an alert hunter, John Greer of Columbia, spotted it and reported the number on its band to the U. S. Fish and Wildlife Service.

Bats plucked from their sleeping quarters in caves or tunnels and banded, arouse from hibernation in a few minutes time and fly off to a new perch to continue their interrupted slumber. During ten years I've never found a banded bat that settled down for the winter in the wrong cave. Even when the bat is carried away 50 or 75 miles or more it makes its way back to its own roost in preference to strange quarters.

At least 4,000 bats have been banded in Centre, Mifflin, and Cumberland Counties, and another 1500 in Bucks County. Since they may travel halfway across the state when they leave their underground hibernating quarters, they can be looked for almost anywhere in Pennsylvania. Anyone finding a bat roost in barn, belfry, or hollow tree should search carefully for bats wearing a small numbered aluminum band on leg or wing or a tiny metal ear tag.

No one need fear a bat. Only the big brown bat has teeth long enough to readily pierce the skin. Bats occasionally carry parasites as all creatures do, but many birds have far more fleas than a bat does. At close range a bat's soft fur and its alert expression is far from unpleasant.

Small children rarely are afraid of bats; it is their superstitious elders who are unwilling to come close enough to bats to learn the truth about them. There is no longer any doubt that bats in this part of the world are both harmless and beneficial.

The strangest bat ever found in Pennsylvania was a long-eared variety whose tremendous ears measured an inch and a half. Several of these bats were found in a cave in western Pennsylvania nearly 75 years ago. None has ever been seen in this state since that time.

The long-eared bat is easily recognized but some of the other ten kinds of bats found in the northeastern states are rather hard to identify. Specimens of bats can be sent to the author at the Academy of Natural Sciences, Philadelphia, or to any of the larger museums of the state, for identification.

In Kentucky and Indiana and in the Ozark Mountains of Missouri there are extensive caverns and in their underground streams live eyeless fish and blind white crayfish. In Missouri and Texas caves there are colorless, blind salamanders.

I have never seen a blind fish, crayfish, or salamander during my visits to more than 100 Pennsylvania caves. The only creatures of the sort ever found locally were blind catfish caught in 1864 where an underground stream is believed to empty into Conestoga Creek, in Lancaster County.

Salamanders of the same kind that are seen in springs on the earth's surface are occasionally found in mines or caves. These are generally the long-tailed or cave salamander, or if found in



An Allegheny cave rat gets away with the photographer's lunch. Big as the Norway rat, this interesting native rodent is a member of the pack rat family.

Dwellers in Darkness

(Concluded)

the water and exhibiting feather-like gills in the neck region, they are probably the aquatic larvae of the red or of the purple salamanders. Some of these amphibians reach a length of six inches. They are altogether harmless and are very dependent upon the moisture and coolness to be found in most caves. These "spring lizards" as they are called perish quickly if exposed to direct sunlight or if their skin is permitted to dry.

Frogs, too, find the even temperature of caves ideal for the winter's enforced fast, while on the walls and ceiling of caves can be seen hibernating flies of many kinds, mosquitoes and fungus gnats, and often a pretty pink moth about an inch in length. Tiny aquatic creatures include "water fleas" or amphipods, and flat, white isopods with numerous, similar segments.

Most reassuring to the cave explorer in Pennsylvania is the news that poisonous snakes as well as harmless varieties, avoid the low cave temperature. Only around the entrances of caves in rocky, mountain country need the explorer proceed cautiously. Once inside he can breathe freely—provided he follows the rules of cave safety: 1. Never go alone. 2. Tell someone on the outside where you are going. 3. Carry an extra light. 4. Mark your way with string or chalk if there seems to be any danger of getting lost.

Conservation Shortcomings

(Continued from page 11)

food for interned Japs. Our ducks, our Alaskan reindeer herd, our fish, they are all in danger.

Like many other Americans before them, this faction can't see the clear road ahead because of the dust they themselves are kicking up in their faces. They are willing and glad to do away with anything that is even remotely connected with pleasure. Sportsmen find pleasure in the out-of-doors. Conservation favors the sportsmen. So, let's forget conservation until we again have time for pleasure. It's a vicious argument.

This sample of crackpot thinking running rampant over the land could be and should be stopped by a few well-directed remarks from responsible government sources. And as I wrote that last sentence I was suffused by a wave of utter helplessness. Why? Because, so long as the people are not aware of the real importance of this thing that is being undermined, there will be no government statement forthcoming.

After this war conservation must work. We are fighting to preserve the American way of life, and we can only carry on by conserving some of our natural heritages.

Practice Is Simplicity Itself

The trouble with a lot of us is that we are prone to lose the ringneck on which we have a bead because we've seen two more get up in an adjoining field. The practice of conservation is simplicity itself. You practice it when you desist from taking a short-cut across the corner of a neighbor's lawn. If you adhere to the teachings of the Golden Rule you must of necessity put into effect the highest conservation principles. It has to do with conserving your health, and sugar and rubber and meat as well as your game and fish.

Conservation is a philosophy of life, a way of living that a person acquires both through teaching and practice. Summarily, its principles should be endued into the very being of every child. I was once asked if conservation was important enough to be included in the public school curriculum. Important enough! Is anything more important than life as we Americans live it?

And to those who must of necessity discount the importance of conservation because it is usually identified with the sportsman and his pursuits, then, answer, if you can, the following: Who or what has made the general public more conservation conscious than these selfsame sportsmen in their unceasing fight to preserve their God-given heritage?

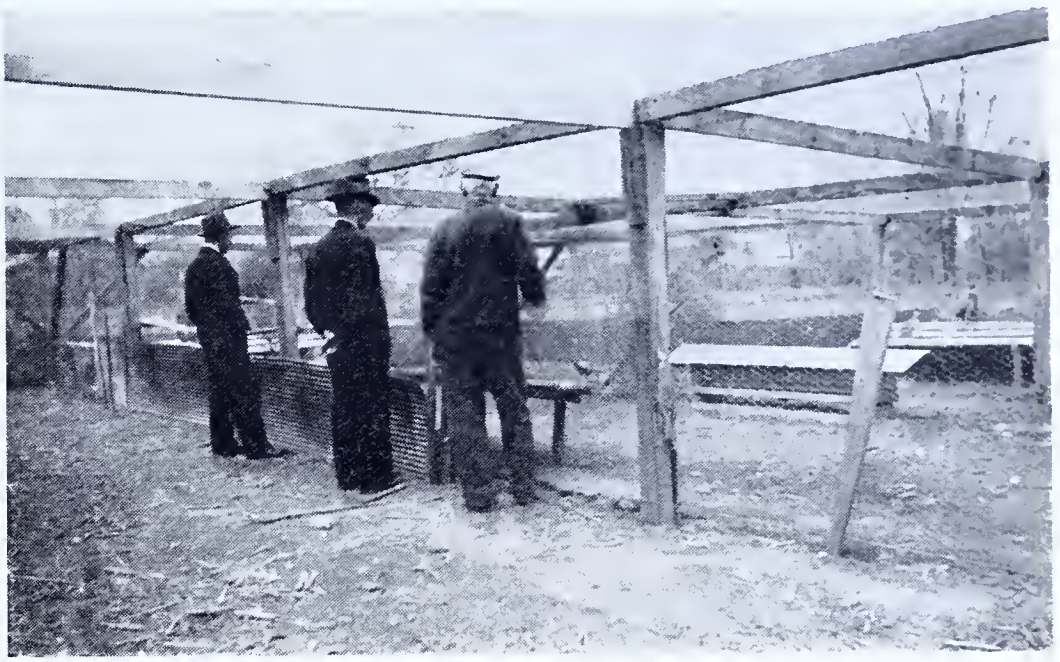


Photo by the Editor.

Members of Newville Sportsmen's Association looking over their pheasant propagating area. Left to right—George D. Rearick and James A. Boyles, members of Game Committee, and Harry O. Forney, cooperating farmer.

THE CAMP

A tent and a blanket and a comrade true,
A dim old forest and a mountain view,
A spiral of smoke that is pungent and blue,
And the coals of a camp-fire glowing.

Here the rounded pillars of the lofty larch
Form tower and corridor, nave and arch;
Where the serried columns of the night-winds march
With their silver bugles blowing.

A bed of pine boughs—soft as wool—
And air that is dew-drenched and sweet and cool,
The splash of fishes in a placid pool,
And the murmur of water flowing.

A cloud, slowly drifting, hides the rising moon,
An owl hoots a challenge to a noisy loon,
In low, thick bushes prowls a sly raccoon,
And a fire-fly's lamp is glowing.

A patter of raindrops on the tent's brown top,
And eyelids that flutter, and rise, then drop;
The voices that murmured pause, then stop.
No sound but the sweet wind blowing.

M. Colgrove Smith

"One of the amazing wonders of Nature is being unfolded along the Lake front nearly every day. I refer to the Spring migration of birds. I had always known Lake Erie was an important point on the Atlantic Flyway for migratory wildfowl. I never knew that other birds used the Lake front during their migration. In the Spring, every day the barometer is down, and a south wind blowing, the birds are flying. The minute the wind changes the flight stops. When conditions are right thousands of small birds are flying. Birds of all descriptions, many of which I am unable to identify, fly by. Some in huge flocks high in the air, other in smaller flocks close to the ground. Crows fly out of the west like from some huge funnel. At certain points along the shore, in properly constructed blinds and with a decoy, crows come in at twenty-five yards. An average morning bag for a good hunter means anywhere from fifty to a hundred crows. Many hawks, namely, Marsh Hawks, Red-tailed and Red-shouldered Hawks, Cooper's and Sharp-shinned Hawks use this flyway. To a lover of bird-life, Presque Isle Peninsula and the Lake Front offers unlimited opportunities for study and research."—Game Protector Clair W. Dinger, District 2, Division "F."

Service with a Smile

(Continued from page 7)



Photo by U. S. Dept. of Interior.
Camping on the shore of Bowman Lake, Rainbow Mountain, Glacier National Park.

additional temporary housing for British crews. In addition to the use being made of the recreational demonstration areas, the Service has been able to transfer strategically located CCC camps to the United States Navy for this purpose.

Travel to the National Park Areas

Although the National Park Service is accustomed to reporting large annual increases in travel, this year's figures show a decrease of 30 percent from last year, and travel for the month of June 1942, as compared to June 1941, showed a 50 percent decrease. However, an impressive total of approximately 16,030,000 visitors, including an estimated 650,000 members of the armed forces, visited the Federal park areas between July 1, 1941, and June 30, 1942, approximately 4,000,000 of whom were visitors after December, 1941.

Problems of Protection Growing Out of the War

In connection with the war program there have arisen proposals to open national park areas to lumbering, mining, grazing, and other commercial exploitation. These present a problem of major importance. The National Park Service is aware that the cost of victory in this war is going to be high and that our natural resources are going to be called upon more and more to meet the shortages in available strategic materials. It is the responsibility of this Service to measure the degree to which the justified needs of the Nation require destruction of irreplacable national park values and to recommend accordingly. Inconvenience to park administration and to park visitors or remediable damage to park property have not been considered sufficient reasons for questioning the use of park resources for war purposes. Only where uses proposed would do irreparable damage and entail destruction or impairment of distinctive features and qualities in the parks have we felt justified in raising the question as to whether all reasonable alternatives have been exhausted before invading the national park areas. Critical necessity rather than convenience should, we believe, be the governing reason.

This test applies, for instance, to such proposals as that for the logging of airplane spruce in Olympic National Park. The shortage of Sitka spruce for airplane manufacture is recognized as a direct threat to perpetuation of these forests in Olympic National Park. This area has served its highest public use by preserving for the enjoyment of future generations a representative remnant of the vast virgin forests that once were the glory of the Pacific Northwest. Once gone, an outstanding natural spectacle is lost to America forever. The consensus of conservation leaders is that none of the virgin forest in this park should be cut unless the trees are absolutely essential to the prosecution of the war, with no alternative, and only as a last resort. Other spruce should first be used. Supplies from Alaska and from Washington and Oregon are being made available for this purpose, and the Service is cooperating in the provision of some airplane spruce by modifying the taking lines of the Coastal Strip and the Queets Corridor Parkway adjoining Olympic National Park. The Service is following the situation closely, and at each turn of the war program we shall take a position dictated by paramount national need.

Similarly with proposals to mine strategic minerals in the national parks and monuments, the position has been taken that invasion of a national park by mining can be justified only to furnish strategic or critical minerals indispensable to the war and not obtainable elsewhere. In general, studies indicate that strategic minerals are not present in national park areas in sufficient quantities to be of economic importance, but the Service, in collaboration with the Geological Survey, stands ready to aid in determination of the Nation's highest interest in the matter of sacrifices necessary to provide war materials.

The long-range departmental policy of eventually eliminating grazing from all national parks and monuments has been reaffirmed. Land-management studies prove that a small acreage of cultivated pasture is equal to many thousand acres of mountain grazing. The ruinous erosion caused by overgrazing and the spoiling of mountain meadows and streams and serious conflicts with recreational use—all are ample justification for not permitting grazing within the national parks and monuments. Destruction to roads, trails, and improvements by trampling, and the expense of developing water, fences, and other facilities would render such proposed grazing uneconomical; therefore, it has been held that any extension of grazing in aid of the demands caused by the war should be made only after all other possibilities have been exhausted.

In these and other cases where destructive uses of national park lands are proposed for war purposes the Service does not take a hide-bound position, but rather one of full attempt to cooperate with the military authorities in determining whether the need is critical for the Nation or merely convenient for some individual operation, and whether the need can be met expeditiously somewhere else without destruction of the qualities of the national parks.

On Guard in the Nation's Forests

The agencies in charge of the Nation's forests face perhaps the most critical fire season in history. The National Park Service is cooperating closely with the U. S. Forest Service and with State and conservation agencies. Acute threats of sabotage and incediarism increase the normal protection problem—always a serious one—and it is further intensified by reduction in available manpower for prevention and suppression activities.

The loss of the Civilian Conservation Corps on June 30 and the withdrawal from the forested areas of large numbers of trained fire fighters seriously complicated the fire-protection program. Immediate steps were taken to locate sources of local labor and to train every available Service employee in the essential elements of combating forest fires.

Civilian public service camps, composed of conscientious objectors, were able to do effective work in combating a large forest fire in the vicinity of the Blue Ridge Parkway. Plans of the Selective Service System for locating additional camps of this type in forested areas are under way.

During the 1941 season, lightning caused more fires than in any single year of record—over one-third of the 540 forest fires reported in the parks. A total of 3,788 acres of forest and brush lands were burned throughout the entire system. In addition, 25,000 acres of grassland in the Lava Beds National Monument were burned over by lightning-caused fires.

Although fires started by careless smokers continue to be the most prevalent of the human causes of forest fires in the national parks, the intensified fire-prevention program has given encouraging results in that

the total number of preventable man-caused fires has not increased in proportion to park use.

Wildlife Conservation

The National Park Service continued its cooperative relationships with the Fish and Wildlife Service on important wildlife problems. Recognizing that the sight of animals, large and small, in their natural habitat is an integral part of the American scene as exemplified in the national parks, efforts were directed toward wildlife management in its broad phases.

During the past year wildlife experts recommended reductions in the number of so-called "big game" and the fur-bearing animals, in order to relieve overpopulation of the range and guard against deterioration of these animals through starvation and disease that accompany continuously overstocked ranges.

The greatest problems occurred in Yellowstone National Park, which contains the largest mammal population of any unit in the system. Although the winter range which is shared by elk, deer, antelopes, and bighorn showed some improvement, this was due primarily to weather conditions, particularly mild winters that made it possible for the big animals to graze in the high country, thus relieving the regular winter range of its usual grazing burden. To prevent further jeopardy of the range, and guard against wildlife disaster in an unexpectedly severe winter, it is necessary to reduce the large existing elk surplus and maintain the herd at less than carrying capacity until the range has fully recovered.

A too-large bison population is another Yellowstone problem. During the year a program was inaugurated for reduction of the Lamar bison herd leading to its eventual establishment on a self-sustaining basis. In all, 183 bison were disposed of to Indians, relief agencies, and the San Rafael Grazing District, Utah.

Elk, deer, and beaver in other areas were reduced, some being used for stocking purposes on non-Federal areas.



Photo by U. S. Dept. of Interior.
The Olympic Mountains from Hurricane Ridge, Olympic National Park.

A comprehensive analysis of grazing by saddle stock in Kings Canyon National Park was prepared as a basis for a protective program for meadows and open areas and to insure proper watershed and wildlife forage.

To assist in rendering the Hawaiian Islands as nearly self-sustaining as possible, grazing was authorized on Hawaii National Park lands found adaptable therefor.

Fish Conservation

Heavy plantings of fish were continued, with the release of 22 million fish (eggs, fry, fingerlings, etc.) in waters of 20 park areas. Most of the planting stock was supplied by Fish and Wildlife Service hatcheries. Rearing pools were operated by the National Park Service in Great Smoky Mountains, Rocky Mountain, and Sequoia National Parks.



Photo by U. S. Dept. of Interior.
Elk. Note cow eating Aspen. Yellowstone National Park.

Soil and Moisture Conservation

In accordance with the program of the Department's Office of Land Utilization, much important work was accomplished in soil and moisture conservation, particularly in the Southwest.

Reappraisal of Objectives and Classification of Areas

World War II brought to a close a 9-year period of park development that was one of the outstanding phases of the peacetime conservation and employment programs. This finds the National Park Service with enlarged responsibilities and functions. The national park areas now number 166, contain almost 22,000,000 acres, and were visited during the past 5 years by an average of approximately 17 million people annually. To the 26 areas designated by the Congress as "national parks" there have been added other types—national monuments, historical parks, military parks, historic sites, parkways, and recreational areas. Under the CCC, the Historic Sites Survey, and the Park, Parkway, and Recreational Area Study, there has been a widespread program of cooperation with the States. This has of necessity called for more complicated organization, greater personnel, and new policies to meet varying situations and needs. The Service during the past year, therefore, has thought it appropriate to analyze its position, and to redefine and clarify its objectives in the light of changed conditions.

Many members of the Washington Office staff and representatives from the field have collaborated in preparing a statement of objectives. This takes into account the increased complexity of the Service's activities as a result of the emergency program, the added functions that by congressional and executive action it has been asked to assume, and the new types of areas that it has been called upon to administer.

Food Habits of Foxes, etc.

(Continued from page 9)



Photo by the Author.
The Seven Mountains Area.

TABLE 3.—Analysis of 5 fox scats for February and March 1942 from Bedford and Centre Counties

Items	Times Occurring	Total Volume cc.	Percent Volume
Cottontail	1	50	38.5
White-tailed deer	1	24	18.4
Apple	2	18	13.9
Gray Squirrel	1	15	11.5
White-footed or red-backed mice	1	15	11.5
Insect material	1	*	*
Grass	2	*	*
Leaves	1	*	*
Pine leaves	1	*	*
Hemlock (*Tsuga canadensis*) leaves	1	*	*
Wild grape	1	*	*
Unidentified animal material	1	8	6.2
		130	100.0

*Trace

TABLE 4.—Analysis of 2 fox scats collected in June 1942 in Centre County

Items	Times Occurring	Total Volume cc.	Percent Volume
Beetles	2	34	56.7
Eggs (*Ruffed grouse*)	1	16	26.6
White-footed or red-backed mouse	1	10	16.7
Grass	1	*	*
Unidentified material	2	*	*
		60	100.0

*Trace

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Build a Nature Trail

(Continued from page 10)

fact that they had learned about the plant. For instance:

Tulip Tree
Liriodendron *tulipifera*

In Poe's story, *Goldbug,* Jupiter dropped a beetle through the skull which hung in a giant Tulip Tree.

Dandelion
Taraxacum *officinale*

From the Latin, meaning "lion's tooth" which refers to the notched leaves.

Rhododendron
Rhododendron *maximum*

Although the word means "Rose Tree," this shrub belongs to the Heath and not the Rose family.

This labeling required some research on the part of the children; they became acquainted with the Dictionary, the Mythology, Classics, as well as popular and scientific plant guides. Soon the children from the neighboring summer cabins became interested in the nature trail. They learned to use plant keys, and read and reread John's neatly printed tags. Their parents came too; rarely was the trail without visitors.

Before long, the young botanists discovered that there were other plants in the area that were not growing along their trail. This taught them to transplant. A skunk cabbage was brought to the bog. . . . only those who have attempted this feat can appreciate the labor that that demanded. A pink lady slipper was moved to the rich mold of the thicket. A wooly mullen was made to flourish on the hill top. By the end of the summer, three children and a man had made friends with more than a hundred species of plants. They had also become acquainted with the birds, mammals, reptiles, amphibians, and insects of the region. And what was even more important, they had made vacation a rich experience not only for themselves, but also for many mountain visitors.

Why not plan a nature trail at your camp, or make one near your home? It may not be necessary for you to own the land. Permission will be granted when the worthwhileness of the project is understood. Every town should have such a trail . . . ask one of the Service Clubs to help. The Biology teacher and his club would find it a splendid project. Or make your own . . . If you identify and label but one plant a day, by summer's end your list of shy acquaintances will gladden your heart.



This fine specimen killed by C. C. Goodheart December 18 last year, hog dressed 282 lbs.

Ring Tail

(Continued from page 13)

tered a bone in his foreleg and ever since he had run with a curious limping lope. But he was still fast enough when the chase was hot. And tonight the chase was hot indeed. Nor did the "stumping" delay him. He was wise in coon lore. He circled each scented tree and picked up the spoor without breaking his easy stride, silently closing the gap between him and the confident coon. Sometime during his nine years he had learned not to bark on the trail. Only when he first struck a track did he tongue so that the men might know that pursuit had begun, and again when he was almost upon his quarry did his sonorous voice echo in the hills, telling his master that the coon had taken to the tree, and guiding him in to the kill.

Ringtail was shuffling through a stand of small white oaks when the first intimation of his deadly peril shattered his increasing complacency. He turned towards the sound, and his round black eyes dilated with fear as the dark shape of the hound loomed up a few rods back on his trail. Terror galvanized his stubby, muscular body as he realized that all hope of reaching the safety of the thickets was gone. Instinctively he clambered up the nearest tree, stopping only when he clung in the highest fork that would bear his weight. Below him circled the hound, now baying continually. Ringtail could see him rear up to place his paws up the slender trunk and noisily sniff the rough gray bark. Before long he heard the men crashing through the brush and saw the long fingers of light from their lamps feeling jerkily across the forest floor. Helpless in the tree crotch, and sensing the danger that lurked below, he clung to the last short-lived safety of his perch. The men were directly underneath him now. He heard them talking to the dog. A beam of light caught him in the eyes, blinding and holding him as the first blow of the axe sent a tremor through the tree.

The men played their lights around the naked branches. "Ain't he a whopper of a coon, Joe?"

"Yeh, he aint no cub. Shall I shoot 'im or cut 'im down?"

"Let's cut 'im down fer ole Pete. How about it Pete?" patting the dogs head. "D'yuh think yuh kin lick 'im?"



Pete, the range coonhound, was a cagy old veteran of the midnight chase.

"Sure he kin lick 'im." From Joe, whose heavy axe was already spraying chips around the white oak. "He aint lost to no coon since he was a bit of a pup down to Mill Creek."

"I know thet, only don't fergit this here coon's a whoppin' big one and Ole Pete ain't as spry as he used ter be. He's the best old coon dog in these here parts and I wouldn' want 'im to git bad hurt."

"Well, Tim, yuh'd better set yer mind up cause this here tree is nigh cut through—only I'd let 'em fight. Ole Pete's smart and he's got one more good fight in 'im. Remember that coon fight last year over back o' Shaeffers'?"

Tim remembered that fight well. It had been a dandy. Now, wavering between love for Ole Pete and his love of a good fight, Tim looked at his friend. "Let er drop, Joe. —Get 'im Pete."

The axe bit deep and the tree leaned slowly for a moment, gathered momentum, and crashed down to hang aslant a chestnut snag. Ole Pete rushed to battle.

Ringtail clung desperately to his branch as the tree fell, but the jar as it struck the snag tore him loose. He lit on his feet, like a cat, on the open, leaf-covered ground, hoping for an instant to resume his flight to another tree. But it was many feet to another tree and already the coonhound was closing in. Now that he was cornered and action was inevitable, his courage surged back. He forgot the men and the lights He pivoted endlessly, snarling through bared fangs, but the big black hound only circled silently, waiting for an opening. The men, too, were silent as they watched the struggle in the beam of their torches.

Closer came the hound. Ringtail tensed for the rush. When it came it sent him sprawling backward on the leaves, where, for all his swiftness, he had no chance to get back on his feet before powerful teeth ripped through the fatty flesh of his shoulder, missing their fatal hold on the nape of his neck by inches. Twisting desperately he caught the dog on the blind side and sank his fangs deep through neck flesh and jaw. No snapping, feinting battle, this; but a rolling, snarling, rough and tumble with the issue much in doubt.

Tim watched the bloody struggle anxiously. "Ole Pete missed his holt. He never done thet afore. I don't like it Joe. That's a bad coon."

"That is a bad coon alright—quicker'n a flash. Pete's gittin old I guess. But he'll be alright; he knows how to fight 'em. Anyway, I'll tap thet ringtailed devil with this billy-stick if he gits too mean."

"Nope, Joe, we can't do thet. We gotta let 'em fight fair now."

Ole Pete shook his massive head frantically to rid himself of the maddening grip on his jaw. He broke free and lunged again for the coon's throat, but again he was too slow and only succeeded in closing high up on a foreleg, crushing bone and muscle in his dulled yellow teeth, while the coon tore savagely at this unprotected shoulder. The dog bled badly now, for his thin coat made him vulnerable to the sharp fangs of the big coon. But he fought on savagely, a



He pivoted endlessly, snarling through bared fangs, but the big black hound only circled silently, waiting for an opening.

veteran of countless battles, with no thought of losing this, the hardest of his long campaign. Over and over they rolled in the bloody leaves, losing holds and finding new ones. The coon, too, was hurt badly, handicapped by his crushed foreleg and almost hamstrung by a deep gash behind his hock.

"Ole Pete's playin' out." Joe sounded worried. "I guess I shouldn' a told yuh ter let 'em grapple. One rap on thet coon's skull with this here stick an"—Joe raised the club meaningly.

"Nope, let 'em go." Tim watched the uncertain struggle, fearful for his brave old hound, but remaining true to his odd backwood's code of battle.

The coon now fought belly-up. Twice his teeth caught the dog's neck, but, instead of tearing through the vulnerable jugular, only slashed the flabby loose skin that hung above his brisket. Above him the slavering jaws of the heavier hound pressed relentlessly, snapping and feeling for their deadly hold. Ringtail felt his strength ebbing. His feet could no longer fend off the weight of his adversary. Heavy jaws closed upon his furry throat. Desperately he lunged and kicked, knocking the hound on his side. But the grip held, shutting the air from his tortured lungs. Ringtail kicked convulsively and was still.

Ole Pete stretched beside the vanquished coon, his yellow teeth still clamped tight in their grip of death.

"Alright Pete, let 'im go." Tim pried the bloody muzzle loose and examined the bleeding gashes on his throat and shoulders, talking softly as he did so, "Good boy, Pete! Yuh licked 'im, boy! Yuh licked 'im boy! Good boy, Pete!"

"Gordalmighty!" Joe finally found his voice. "What a fight!" He bent over the dead coon. Warn't he the whopper though? Must go all o' twenty-five pounds—and all guts, too, I'd say—hide won't be worth nothin' much now. It shor looked bad fer Ole Pete fer a spell. Had me right scairt, so 'e did."

"Pete's lost a lotta blood. Reckon I'd better tote 'im." Tim carefully lifted the dog to his shoulders. "I ain't lettin 'im fight no more. Don't believe I ever seen a better scrapper than thet there coon. Throw 'im in the sack and let's be gittin back. Won't Jake be madder'n a tomcat cause he didn't come along?"

When You Talk Shooting

(Continued from page 14)



Photo by Mrs. Steven Super.
Three 6-point bucks bagged last year by the 3 Super brothers of Taylor, Pa. Mrs. Super says all three are now serving in the Navy stalking bigger game.

ball or slug is the generally used shotgun term, even though slug or ball may be technically correct. Usually a deformed bullet is referred to as a slug. Machine guns, rifles, carbines, pistols, revolvers and derringers use cartridges in which bullets are loaded. "He was hit with a bullet fired from a .22 semi-automatic or self-loading rifle or pistol," as you have noted, would be technically correct, but according to adopted usage "automatic" only would be understandable.

7. "He was shot with two .38 bore bullets fired from a .38 pistol which was found in the weeds nearby; it had four empty bullets and two that had not been fired still in the cylinders." To be correct it should read, "He was hit twice with bullets which likely were fired from a .38 caliber revolver, as a revolver of this caliber was found in the weeds nearby, the cylinder of which still contained two cartridges and four empty cases in the chambers."

8. Recently much newspaper space and radio time was given to advise people that 25,000 bullets were stolen from Fort Lewis. Nine persons were indicted by a Federal Grand Jury for stealing, purchasing or possessing these so-called bullets and nothing has yet been said to give the true story. As a matter of fact, 25,000 complete cartridges with boxes and cases which involved approximately three times the monetary value of the loot, were stolen. The reports indicated that only bullets were stolen. Bullets are only one of seven basic components required to make up an army cartridge in addition to the numerous operations necessary in order to complete a cartridge. The brass case, the primer cap, the fulminate or priming mixture therein and the anvil, which completes the primers, the powder and bullet. And there are many types and shapes of bullets, some jacketed and some not, depending upon the purpose for which they are intended. You have heard the expression, "Send bullets to our soldiers." If this were actually done, well, our boys would have to find some good stones to throw for a bullet alone is harmless.

9. "He was wounded with the shot charge of a .32 bore bullet fired from a revolver which was found nearby with the trigger still cocked." To be correct this should read, "He was probably wounded with a bullet which likely was fired from a .32 caliber revolver which was found nearby with the *hammer* cocked." Some rifle or pistol cartridges are loaded with pellets of small size shot but drop, soft, buck or chilled, etc. shot is commonly associated with shotguns. That is why shotguns are usually referred to as such.

Endless such illustrations of common errors that cause the author to appear ridiculous could be given.

It is the British custom to class all small arms ammunition under the heading of cartridges regardless as to whether it is for shotgun, pistol or rifle. This is technically correct. However, it is the American custom among ballistic experts, shooters, distributors or manufacturers to differentiate between shotgun ammunition and that used for pistol or rifle shooting, classing the former as "shot shell" and the latter as "rifle cartridge" or "pistol cartridge" as the case may be—and both of the latter are termed by the manufacturers as metallic ammunition.

Metallic ammunition falls into two general classes, i. e., center fire and rim fire. The former, as the name implies, is ignited by striking a primer inserted in the center of the head, and the latter by striking the rim under which the priming mixture is located. This metallic ammunition is made in a great variety of calibers. The caliber is expressed either in decimals of an inch or in millimeters and, in any case, the figure given expresses the nominal diameter of the barrel bore to which that particular cartridge applies. In most cases the caliber expresses the exact diameter of the barrel bore, but there are a few exceptions in some of the .22, .32 and .38 calibers, chiefly, where this is not the case but the relation is closely approximate. Ballistic experts are familiar with these variations. It will therefore be seen by the above that the bullet and nothing else is a factor that determines the caliber. A cartridge of a given caliber may have extremely high velocity and energy, while another cartridge of the same caliber may be only suitable for short range shooting.

In referring to shotgun ammunition or "shot shells," these fall in a very different category from "cartridges" in purpose, characteristics and performance, and their different sizes are expressed not in "caliber" but in gauge, as 12 gauge, 16 gauge, etc. Sometimes also length is specified, which means the overall length of the fired shell, not the loaded length, where the top of the shell case has been crimped down, which shortens it somewhat.

"Tough luck, Pal—but in the excitement to go camping I forgot to bring along something for you."

THAT NEW BIRD DOG

Old squirrel dog "Lanky" has had quite a spell,
And I ain't none too sure of how good he can smell,
So when I was told that them bird dogs is nice
I sent and bought one at a right fancy price.

Old Lanky was jealous and sulked round a-while,
He warn't much stuck on that city dog's style.
I too had my doubts all the time don't you see,
For how kin a dog chase a grouse up a tree?

There's a lot of wild grapevines back of my house
Where me an ma counted forty-eight grouse,
I took that new dog and went back to the woods
To give him a chance to deliver the goods.

We didn't go fur till that dog took a fit,
And I tried to get him to come out of it,
But thar he stood firm with his brain in a fog,
I hain't never seen sich a tarnation dog.

His head was drawed off to one side, standin there,
And he even raised one foot up in the air.
I sicked him and hissed him and used him right bad
For I'm sorta afeard of a dog that's gone mad.

I said right out loud, "You're in a bad spot,
You've gone ravin mad and you'll have to be shot."
Then out flew a grouse on the lickety split
And jist then that dog came out of his fit.

Wal—I stood me right thar till I figgered it out,
And I felt right relieved when I lost all my doubt.
Some neighbors of mine like the dog may be grand,
It may be that I only misunderstand.

F. JUDSON SEWALL.



National Grouse Champion

(Continued from page 15)

is now stationed at Keesler Field, Miss. He did a real bang-up job, marshaling with an accuracy and ability that comes only from long experience in the woods. Arthur L. "Where Are We Now" Haight of Johnsonburg, Pa. whose enthusiasm is highly commendable, acted as Assistant marshal, taking Joe Grace's place when he was called away on Tuesday, and with but one minor derelection did a most competent piece of work.

Galleries were exceptionally large, and right now let us take our hats off to the splendid bunch of sportsmen comprising the galleries. They evidenced their sterling qualities of sincerity and true sportsmanship in following the various braces by refraining from unnecessary noise or conversation, or crowding of the judges and handlers. They kept in a compact group, did not stray, and never was there one single evidence of thoughtlessness among all those gallerites in the four days of running.

Open Puppy Stake

A record breaking entry of twenty-nine youthful contestants were keyed to start in this event which got under way at 8:58 Saturday morning. Shortly afterwards the sun emerged and conditions remained ideal all day. The fourteen braces and the bye were run off without stopping for lunch. Results:—Redlick's Skyrocket Sal, white and black setter bitch owned and handled by Alex Deemer II from Brookville, Pa., the winner; Mack's Dotty Sheba, black and white setter bitch owned and handled by Wayne Wesner of Knox, Pa., placed second. Village Gremlin, white and liver pointer dog, owned by Corporal Rich Tuttle of Kessler Field, Miss., and handled by Larry Tuttle accounted for third honors; while fourth went to Jay Peerless, white and black setter dog, owned by Frank R. Lockard of Toledo, Ohio, handled by Carl Prall of Franklin, Pa.

Open Junior All-Age

This attracted twenty-six starters, getting under way at 3:30 Saturday afternoon following completion of the Puppy Stake.



"Gosh I love coon hunting!"

McQuay, a cleanly built white and black pointer dog, owned and handled by Charles Elder of Jersey Shore, Pa., captured top honors. Second money went to Dawn's Light Spectre, setter dog, predominantly white with a bit of black, owned and handled by Dr. H. D. Ersig of Toledo, Ohio; Whiterock Peerless Topsy, forty-four pound bitch, owned and handled by Riley W. Clarke of Greenville, Pa., practically pure white with a vague touch of black, was awarded third place.

National Grouse Championship

An excellent field of fourteen widely heralded and successful campaigners, all girded and primed, faced the judges vying for the National Grouse Championship, which started at 2:01 Sunday afternoon after a short sojourn for lunch upon completion of the Junior All-age. There was a huge gallery on hand, an influx of owners, handlers and others to witness for themselves what constituted the pattern for the supreme goal of grousedom.

Sky Bandit, the new Champion, owned by George E. Sinclair of New Kensington, Pa., and in the string of one of our leading handlers, Gene Galloway, won the title convincingly and decisively. This regal setter, predominantly white, with touches of black and tan on his head, is a kingly dog in every sense of the word, one of the typiest setters we have ever seen; fair sized, weighing approximately fifty-one pounds, has beautiful conformation and in action or repose, looks every inch his title. The National Runner Up was Kitty's Major White, owned and handled by J. C. Williams, New Castle, Pa.

Those in Service

(Continued from page 18)

until the day that I can get back to Pennsylvania and see a real honest to goodness mountain again. It might seem funny, but I miss them. I don't know how the fishing is—yet. I say yet because I intend to try it as soon as I get a chance. I have seen people fishing from the breakwater every day, but have yet to see a fish. I guess I'll have to show them how a Pennsylvanian does it.

"I believe that is just about all the news today. And speaking about "news," don't forget to keep the PENNSYLVANIA GAME NEWS coming. That is just about all I have to keep me informed of what is going on in the Commission."—Harry Defina, RM3c, U. S. C. G. Radio Station, Wilmette, Ill.

How the years roll around! Among other proud Dads in the Commission whose youngsters have grown up all of a sudden and are now in the armed forces is L. A. Mackey, veteran of the Commissions drafting department, and of World War No. 1. Richard K. is now undergoing training in radio communications at Fort Monmouth, N. J., just having been sent there from Miami Beech. He's in the Army Air Corps.

Then there is Clarence "Danny" Weaver of the Commission's Purchasing Division whose son Charles is assigned to Teaching

(Continued on next page)

NEW REPORTS AVAILABLE

The latest Report of the Commission covering the biennium from June 1, 1940 to May 31, 1942 is just off press after a considerable delay in printing due to the war effort, and is available to those who might be interested in reviewing the various activities engaged in during that period.

Aside from factual information the Report also contains many illustrations and has a splendid two-color cover.

There also happens to be available a limited supply of Reports for the previous two bienniums, namely, 1937-38 and 1939-40. All three comprise the finest summation of activities ever prepared and distributed by the Commission, and as a group they will form a valuable addition to any serious minded conservationist's library.

If interested please make your request direct to the Division of Public Information, Pennsylvania Game Commission, Harrisburg.

BOOK REVIEW

The Ducks, Geese and Swans of North America by Francis H. Kortright, published by the American Wildlife Institute, Investment Building, Washigton, D. C., is the first complete descriptive history of the migratory waterfowl ever written by a sportsman for sportsmen and published by an organization whose sole purpose is the furthering of wildlife conservation through research and education.

Mr. Kortright could not have chosen a better subject, for perhaps no comparable group of birds has been more totally affected by the constant flux of a growing civilization than have the clangoring hordes of migratory waterfowl. Since the dawn of American history they have responded with infinite parallelism to the vicissitudes of our struggling civilization, waxing and waning as man saw fit to destroy or encourage.

Thoughtless drainage, wanton burning, ruthless trapping, wholesale shooting and a thousand other atrocities prophesied from the beginning the ultimate march down the fading trail for American waterfowl. The increasingly rapid retreat to oblivion was luckily checked as the last milestone was plainly in sight. In the single intervening decade, determined man, the same man that previously destroyed, has reversed the fading trail and yearly causes it to grow brighter. From a low of 28 million waterfowl in 1935, the population grew to 50 million in 1939; 65 million in 1940; 70 million in 1941; over 100 million in 1942; let's hope it doubles in 1943!

The book contains 36 plates in full color and more than 200 line drawings from the magic brush of the outstanding Canadian artist, T. M. Short, and sells for $4.50.

Wildlife Status of Fur-bearers

(Continued from page 17)



Photo by the Author.
Modern fur farm. Silver foxes and minks are produced in abundance.

destroy a considerable amount of fish. The raccoon is too big and too slow to do much harm to fish except in drought periods when free migration of fish is impossible due to natural drawbacks as when trout, suckers and other species may become trapped in land-locked positions; and while it is true that a raccoon or a mink can succeed in taking an occasional fish under average conditions, they also take a considerable amount of other food from the waters. Crawfish, for example, are the most common of these, and there is no question in my mind as to whether minks eat crawfish because they certainly do, and they do it in a big way, as can be attested to by examining mink dung on logs and other debris along the waters frequented by these animals. The raccoon's late Summer weakness is the farmer's corn patch, and in localities where raccoons are fairly abundant they can do a grave injustice to the tillers of the soil. Raccoons and foxes will attack and kill domestic fowl and other barnyard animals as long as these are easy to get.

Opossums and skunks do a highly commendable job of cleaning up on carrion through the warm weather months. Skunks are particularly valuable for their ability in destroying multitudes of injurious insect life such as prey on farm and garden produce. Of course, they destroy a few rabbits also. The fats which come from raccoons, skunks and opossums are a valuable by-product.

Otters are primarily a fish-eating animal, but they are too few to be concerned about from a fish-menacing standpoint. Most of our otter family lives in the northeastern counties where there are something like 400 lakes spread out over a wide area with ample aquatic life to supply the demands of both fishermen and otters so there is no reason for alarm. Beavers and muskrats are water animals also but both are vegetarians and, as such, their flesh is fit for human consumption. The flesh of otters, although somewhat fish-like in taste, is likewise edible.

The conservative control of wildlife is dependent to a great deal on how far we hunters, fishermen and trappers are willing to go along together, mutually understand facts, coordinate the right principles and abolish prejudice. At the present we are confronted with debatable issues on the tug of war status of the raccoon and fox families. Life is just what we make it, and as long as there are good reasons for the support of a constructive program for the general improvement of conservation we should aim to favor rather than hinder them, and thus come nearer to achieving a proper standard of sportsmanship.

With Those in the Service

(Continued from page 31)

Staff, Army School of Roentgenology, University of Tennessee, after having received his basic training at Camp Lee, Va., and the School of Roentgenology, Walter Reed General Hospital, Washington, D. C.

Pvt. Joseph V. Geiger, 18, son of Louis B. Geiger, Division of Accounting, has arrived somewhere in the Pacific area. A former cadet of Marmion Military Academy, Aurora, Ill., he enlisted in the Marine Corps last December and received basic training at Parris Island, S. C. While there he was awarded medals for sharpshooting, expert pistol, hand grenade and bayonet. He is now in an advanced training course. Pvt. Geiger is a member of the Wm. H. Nauss Squadron, Sons of the Legion. His address is Battery H, Mg. Group, 2nd Defense Bat., c/o Fleet Post Office, San Francisco, California.

"Well, moved again. I thought I covered quite a few miles while patroling for the Game Commission but I believe I traveled more miles in the last 3½ months than I have for some time, but I must say I have enjoyed most of it. I believe the barren flat lands in the west were the most undesirable of all.

"I kept an eye open on my travels for game and I thought I saw lots of rabbits in Missouri and Kansas but England has the west beat for rabbits. I saw more rabbits in this country than I ever saw anywhere, including Pennsylvania. I hated to say the latter but it is true. I do not as yet know their regulations, but I have seen a few hunters in the field recently so there must be some sort of season open now, but far be it from me to guess what."—Pvt. A. C. Ganster, Co. C, 852nd Engrs., APO 875, c/o Postmaster, New York, New York.

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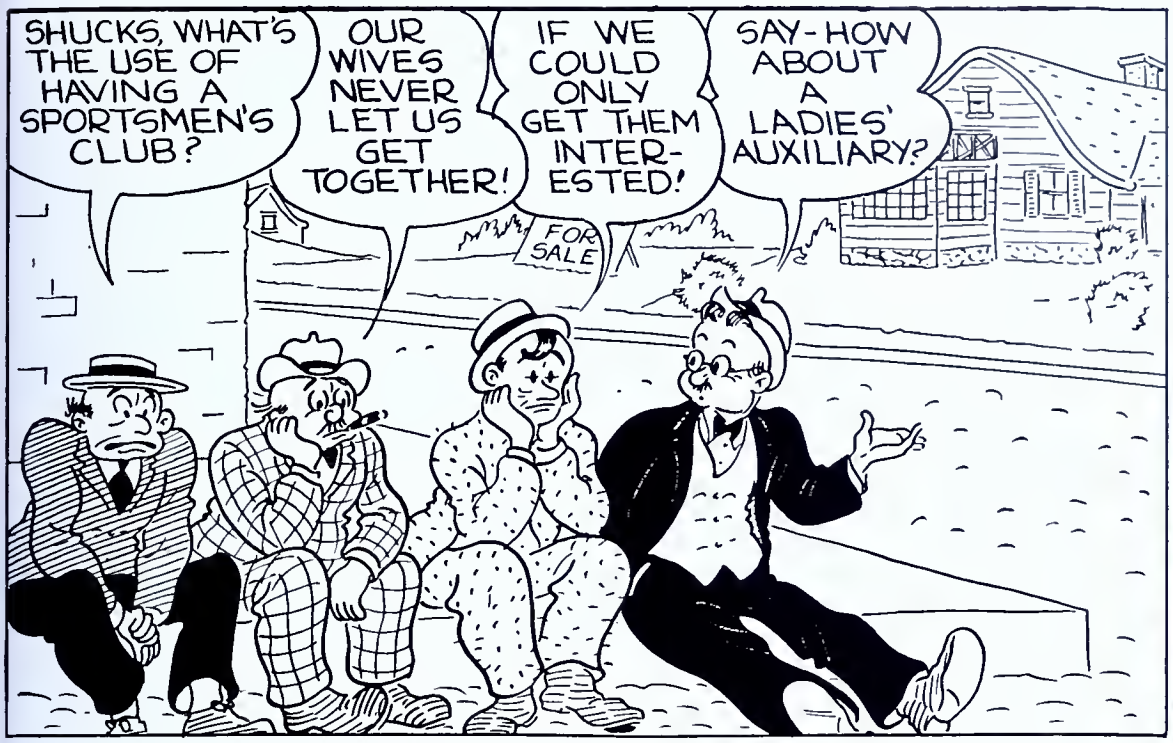
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AND THIS SCENE IS REPEATED IN ALL THE MEMBERS' HOMES!











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EDITORIAL

AUGUST, 1943

IN THIS ISSUE

☆

Victory Gardens and Ration Points
By Wilbur M. Cramer

★

This is Ours to Fight For
By Logan J. Bennett

★

Wildlife and Fishery Resources In Wartime

★

Preparing to Trap
By S. V. Sedlak

★

The Woodchuck
By Daniel H. Fackler

★

Farm-Game Program Yields Big Dividends
By C. C. Freeburn

★

Days Afield
By H. T. Wieand

☆

Cover by
Jacob Bates Abbott

Anti-Conservation Legislation

A U. S. Senate Bill, No. S. 1152, introduced by Senator Pat McCarran from Nevada, ostensibly for the conservation of wildlife on public lands, is in reality a triple threat against the principles of conservation under which our wildlife has been saved from extinction.

Threat one makes it possible for certain Federal officials, at their discretion, to take over absolute control and permit the hunting, trapping, and killing, in numbers to be determined by them, of game animals of either sex, on any public lands or reservation of the United States.

Threat two provides for the issuance of Federal licenses "to citizens of the United States without regard to residence," and exempts the holders of such licenses from observance of State game laws.

Threat three, as the final blow, permits the sale of game animals.

There is only one way to signify your protest against such a piece of dangerous legislation. That is to telegraph or write your own United States Senators or Representatives. Even though it may have been presented in good faith, the fact nevertheless remains that no sportsman, no matter what part of the country he hails from, can afford to permit this bill to become a law. It would take from the States their long-standing right to control the upland game on any Federal lands within their borders.



No sportsman can afford to permit this bill to become a law.



Anyone who can take a bitch and raise a litter until puppies are weaned should write Lieut. W. Newbold Ely, Ambler, Pa., Director of Dogs for Defense and in charge of the national war dog breeding program.—*See page 28.*









The Prayer of a Nature Lover

EDITOR'S NOTE: *Sometime ago when Dean R. L. Watts, prominent Pennsylvania sportsman from State College, presented a Sunday evening picture service entitled "God Revealed in Nature" at the State College Presbyterian Church, Mr. John T. Taylor, lawyer, sportsman and nature lover, offered the prayer. It was so unique and beautiful that Mr. Watts requested him to put it in writing for the benefit of our readers.*

Our Heavenly Father, we would pause in the midst of our worldly cares to worship Thee and to recognize the fact that Thou art the God of Nature and that instead of being far removed from us, Thou art as near to us as hands and feet. Because we love Thee, may we be ever mindful that Thou art present in all Nature around us. Help us to know Thee in the babbling brook, the thrill of a sunset, the gorgeous coloring of an October day, the promise of the rainbow, the inspiration of the sunset, the air fragrant after a quick rain, or rich with the smell of pine needles on a warm day.

Help us, Oh God, to learn many useful lessons from the sturdiness of the oak, the dignity of the spruce, the grace of the willow, the gentleness of the fir, the purity of the snow, the symmetry of the tulip poplar, the verdure of the pine, the majesty of the elm, the daintiness of the dogwood, the cheerfulness of the witch hazel, the healing of the sassafras, and the persistence of the jackpine.

We are mindful each day of the innocence of the violet, the sweetness of the rose, the daintiness of the trillium, the dignity of the jack-in-the-pulpit, and the sweet scent of wild crab apple blossoms.

Then again, help us, Oh God, to learn other lessons from Thy dumb creatures such as the faithfulness of the dog, the innocence of the sheep, the sense of the horse, the homage of the cat, the cheerfulness of the robin, the harmlessness of the dove, the gracefulness of the bluebird, the beauty of the cardinal, the acuteness of the wild duck, the organization of the wild geese, the humility of the toad, the affection of the groundhog, the diligence of the ant, the method of the bee, the motherly care of the grouse, the caution of the pheasant, the vision of the wild turkey, the cleanliness and sense of touch of the raccoon, the instinct of the squirrel, the cunning of the fox, the resourcefulness of the moose, the gracefulness of the trout, and the fighting spirit of the bass.

As we learn to commune with Nature, we beseech Thee to assist us to glorify the common place around us, to appreciate the beautiful, to conserve for future generations the privileges we have enjoyed, for in so doing we will fulfill Thy promise and desire—a richer and more abundant life for ourselves and others. Amen.



This family group was snapped in the act of industriously helping to harvest their suburban crop of beans, beets, turnips, etc.



The size of the cabbage and tomatoes in this photo is enough to make their owner and cultivator smile.

Vegetables and Ration Points

IF this article were headed "Vegetables or Ration Points" it would indicate that there must be a choice between two very valuable things in our lives these days. We are optimistic enough to believe that we can have both the vegetables that we raise in our victory gardens and ration points for meat, butter, etc., that we can save because some member of the family will be lucky enough to kill some rabbits during the coming hunting season.

The State Council of Defense estimates that there were at least 750,000 victory gardens in Pennsylvania last year. This year they were expected by the Federal Government to set the goal as 1,400,000 victory gardens for Pennsylvania out of 18,000,000 proposed for the Nation. This would place Pennsylvania in the top rank among the states in this respect, if not actually in first place, and it represents almost a 100% increase in the number of gardens since 1942.

The additional allotment of land for gardens by cities and towns from lawns, parks, and abandoned fields in and adjacent to the cities and other built-up territory has presented more problems than just the digging and planting of land that has not been cultivated for many years. Additional thousands of acres for gardens mean that rabbits and other wild creatures resident on those areas have had to readjust their feeding habits. Quite naturally they prefer tender and well cultivated peas, cabbage, beans and other vegetables to many of the things grown there originally. Rabbits are like human beings in this one respect at least, they grab the choicest foods available.

Neither the State Council of Defense nor the Game Commission has been "asleep at the switch" regarding the very important problem of preventing or controlling rabbit damage, which is nothing new. Long before there were Game Commissions, rabbits ate garden vegetables when they could be secured. The fact is that with thousands of gardens more than we have ever had before, with thousands of heretofore unused acres converted into gardens, and with an unusually large crop of rabbits both last season and this last spring, damage by rabbits was bound to occur on an intensified scale unless something was done about it.

For several years the Game Commission has had in operation a systematic plan to trap and transfer rabbits and other game during the winter from parks, cities, boroughs, institutional lands, game propagation areas, water company properties, nurseries, and other protected areas where there would be damage, and release such game far removed from such areas where public hunting was permitted and where there would be little likelihood of crop damage. Rabbits were trapped as follows during the five years previous to the fiscal year of June 1, 1942 to May 31, 1943:

1937-38	5,853
1938-39	22,980
1939-40	31,053
1940-41	32,799
1941-42	20,330

By Wilbur M. Cramer

During the past winter Mrs. H. B. Eliason, the Chairman of the State Council Advisory Committee on Victory Gardens, conferred with Executive Director Gordon regarding the cooperation the Game Commission could give in removing rabbits from cities, boroughs, parks and other places where there would be victory gardens this season. In spite of the fact that because of reduced personnel and a shortage of gasoline and tires, this work would not be easy, the Executive Director promised that the Commission would put forth every effort to push its game trapping and transfer program to the limit. Ordinarily this campaign would end about March 20, but because of the unusual conditions existing this year it was ordered continued until April 30, with instructions to continue trapping so long as absolutely necessary in some localities, even during the summer months. Our records show that as a result of these extra efforts and in spite of many existing handicaps a total of 30,196 rabbits was trapped between June 1, 1942 and May 31, 1943.

The most outstanding example of what can be done along this line in a large metropolitan district is the record established in Allegheny County this past season, where a total of 5,232 rabbits was secured. This was made possible only through the close cooperation with the Game Protector and hard work upon the part of the Allegheny County Sportsmen's League and the Boy Scouts. A splendid rabbit trapping job was also again done in Berks County, and 2,099 rabbits were secured in that territory. This number would have been very materially increased if the sportsmen could have secured gasoline to attend rabbit drives on Auxiliary Game Refuge No. 99, the Maiden Creek City Water Shed a few miles distance from Reading. Other counties where 1,000 or more rabbits were trapped are as follows:

Dauphin	1,118
Lehigh	1,371
Mercer	1,140
Northampton	1,310

Rabbits were trapped in the seven field administrative divisions of the State as follows:

"A"	8,394
"B"	1,307
"C"	1,275
"D"	966
"E"	2,115
"F"	6,175
"G"	9,964
Total	30,196

The Boy Scouts assisting with this program trapped a total of 2,884 rabbits.

The cities from which the most rabbits were secured were as follows:

CITIES AND TOWNS	NO. RABBITS
Allentown	1060
Mt. Lebanon (Allegheny County)	926
Harrisburg	730
Fox Chapel Boro (Allegheny County)	633
Bethlehem	536
Washington	387
Zelienople	345
Reading	314
Somerset	314
Erie	306
Du Bois	285
Ingram and Crafton (Allegheny County)	266
New Kensington	249
Pittsburgh (Section of City not listed under special sections or subdivisions)	244
Wilkinsburg	241

(Continued on page 20)



Photos by W. L. R. Drake.

A typical back-yard garden.



The streamers in the foreground in this garden kept the birds from bothering the plants.



Some enterprising gardener hit upon this unique method of repelling invaders—a statue of a little boy kept rabbits and other pests at a safe distance.



THIS IS OURS TO FIGHT FOR

Reprinted Courtesy *Outdoor Life*, November, 1942

DO YOU know that you are the most fortunate sportsman in the world? If you don't, it is time you realized it. Do you know that the United States of America is the only major power on this earth where every citizen has the right to hunt, and at the same time has innumerable places to exercise this right? It doesn't make any difference whether you are a rabbit-hunting hillbilly in the Ozarks with a bluetick hound, a boy in Vermont with a pussyfooting setter after grouse, or a duck hunter with a retriever on the Jersey shore; from childhood you all have been able to drink from an ample cup the fullness of life associated with the out-of-doors. This is one of the great privileges or rights that offer us stirring incentives for maintaining our American way of life.

Our forefathers made America for Americans, and in getting this democracy started one of the many wise actions that they took was to see that the ownership of much of our wildlife resources remained in the hands of the State, and not under the control of a few landed gentry who were more fortunate than the masses. One of my grandfathers came from northern Europe for the single reason that he wanted to live in a country where he could try to catch a fish without sneaking onto some nobleman's property where the common people were excluded. Another of my forebears came



By Logan J. Bennett

The freedom of the outdoors is a precious American privilege few other nations know

to this country because he wanted the right to bear arms and to shoot a grouse and call it his own after he got it. He had spent his boyhood as a lower-class citizen in his home country, and by the time he was twenty he got tired of looking over fences at the nobility shooting pheasants each fall, and came to America where he would be just as good as the next man. Yes, most of us are here because our ancestors—or we ourselves—sought those freedoms of which the freedom of the outdoors is one symbol. But most of us today are so used to doing things and being able to do them that we don't realize how fortunate we are in our rights.

A sportsman doesn't get to be one just because he thinks it might be nice. He has to have the opportunity. And that is exactly what every American boy has. He learns to love guns, dogs, grouse, song birds, deer, and the freedom of the out-of-doors by being exposed to it. The exposure came to me when I reached the venerable age of ten years. It happened like this:

It was a hot July morning, and I was busily engaged in trying to whiten up in professional fashion a picket fence across the front of our home place. I was tired, and shortly I crossed my arms and leaned my head on them on the top supporting board of the fence. Before I realized anyone was near, a soft male voice said: "Sonny, what is the matter? You look kind of sad!"

I looked up and there stood Mr. Cooper, our town painter. But he didn't have his white, paint-spotted jumper on. Instead, he was dressed in worn hunting clothes, and sitting at his heels was his old black-and-tan squirrel-hunting bitch called "Pup." Over his arm he carried a worn, but well-cared-for, .22 caliber Favorite rifle. Waving gently in the breeze were several fox-squirrel tails that had escaped from the "innards" of his coat. Yes, Old Bill, as I later began to call him affectionately, was just walking in from a morning squirrel hunt.

In a flash, before I could so much as return his greeting, realization flooded through my inexperienced brain. I knew from that instant on that the kind of thing that Mr. Cooper did was my kind of thing too. Finally I got around to saying "Hello." I guess he could see that my eyes were as big as

(Continued on page 16)



Photo U. S. Fish & Wildlife Service.
Geese on the Marsh—Snow geese concentrated on the Sacramento National Wildlife Refuge in California, show the value of sanctuaries.

Wildlife and Fishery Resources in Wartime

THE second year of the Fish and Wildlife Service[1] was one of the most difficult in a history that through parent agencies extends well back into the nineteenth century. Still engaged at the year's opening in the task of organizing and coordinating the work of a new governmental unit, the Service had at the same time to face the adjustments required by the national defense program, adjustments that became all the more difficult in the middle of the year when war itself came to the Nation. Soon thereafter the Service was confronted with the task of preparing for the transfer of its headquarters to Chicago, Ill., and finally to the perplexities of these problems were added those of retrenchment in accordance with reduced appropriations for the next year.

Nevertheless, it is possible to report considerable success in wildlife and fishery conservation programs, and it is encouraging to realize that a series of progressive years had placed the resources in good condition to face the hazards that come to peacetime pursuits in time of war. Though thus encouraged, the Service and conservationists throughout the country were engaged in the grim task of conversion to war. Camps of the Civilian Conservation Corps, for example, which had provided labor for developing national wildlife refuges, were reduced from 36 to 12. Of the remaining camps, 4 were working on military areas, and arrangements were being completed for thus using the other 8, when, at the close of the year, action of Congress abolished the CCC. Other aspects of the Service's work, on the other hand, received increased emphasis.

[1] This Service was formed on June 30, 1940, by consolidating the Bureau of Biological Survey and the Bureau of Fisheries in accordance with the President's Reorganization Plan No. III.

Fishery Management

The fisheries of the Nation assumed immediately an outstanding importance as a source of vital food. The facilities of the Service for making the fishery contributions most effective were mobilized and made available to the armed forces, the lend-lease agencies, and the industry. By the end of the year plans were well formulated for the program that began later with the appointment of the Secretary of the Interior as Fishery Coordinator and the Director of this Service as Deputy Coordinator.

The fishery contributions of food and essential byproducts, it was realized, are so great that without them the ability of the Nation to wage war would be lessened materially. Increasing demands for canned food led to an adjustment of regulations in Alaska whereby the fisheries may produce the maximum yield consistent with maintaining a future supply. Adoption of scientifically developed management measures by the States are allowing more fishes to grow to marketable size and to spawn, thus resulting in greater yields. Farming methods were advocated for restoring depleted oyster beds, and procedures of scientific oyster culture are improving the quality of the edible product. Although the "popular" fishes, including haddock, cod, shad, and salmon, are being harvested to capacity, the fishermen are being urged to concentrate on the landing of minor and less familiar species, with the result that many tons of food and byproducts are being derived from hitherto underutilized species. There are possibilities of further increases from this source, not only in the sea but even in the Great Lakes and the larger rivers. Additional sources of vitamin-potent fish oils are being sought to supplement present supplies and possibilities for developing new products have been disclosed. The development of farm ponds in the Southern States is spreading rapidly under scientific guidance, and the adoption of improved methods of pondfish culture and pond fertilization and management is producing fishery resources of great aggregate magnitude in areas where fresh fish hitherto has been a luxury food. Not only are scientific investigation and development of methods for controlling industrial pollution saving tons of valuable fishes in inland and coastal waters, but control methods are resulting in the recovery of quantities of strategic material from the wastes.

Statistical compilations, too, were made as an essential labor of the Service. As vital in conservation of fisheries as other natural resources, these summaries stand as guides for Service activities and as aids in informing other Federal agencies and the public. Data collected for 1940 (the latest year for which complete figures are available) show, for example, that nearly 125,000 fishermen, employed that year in the catch of 4,059,524,000 pounds of fishery products, in waters of the United States and Alaska, profited to the extent of almost $100,000,000—a 2-percent gain in value over the preceding year despite a 9-percent recession in volume. A total of about $238,000,000 was estimated as the value of this harvest to domestic primary fish handlers and processors (in whose plants worked an additional 90,000 men) as prepared for market in 1940.

Collecting, compiling, analyzing, and issuing current data on the production, distribution, and marketing of all fishery products provided information of paramount importance in any Federal program incorporating food control, information of great value to the Office of Price Administration, and also to the fishing industry. Investigations

Editor's Note: **In keeping with our practice of recent months we take pleasure in recounting in this article some of the activities of the U. S. Fish and Wildlife Service as outlined in its Annual Report for 1942, by Ira N. Gabrielson, Director.**



Photo U. S. Fish & Wildlife Service.
Bailing salmon from floating trap in southeastern Alaska.

in canning and curing fishery products made available information on up-to-date methods in food preservation and indicated what fishes are most suitable for canning or curing when increased supplies are demanded as a food-conservation measure. Other activities included examining samples of canned fish for quality; assisting military procurement officals to draw up purchasing specifications for fish and advising with them in their purchase of these products; working out methods of canning or curing species of fishes not now utilized; and advising on the practicability of proposed new canning ventures to increase the national food supply for emergency use.

At the request of a committee that included representatives of the United Nations, the Service's laboratories expanded their vitamin-A programs to include a survey of potential sources. In allied interest, liver and viscera samples were collected from many species of fishes and studied for A and other vitamin-oil content, concentrates, and most efficient methods of recovery. Other studies involved a factual survey on vitamin-D oils, the development of more rapid methods for drying fish for domestic use or shipment to our expeditionary forces and to the peoples of the United Nations, and finding a substitute for the agar-agar used in bacteriological media in many industrial and drug-manufacturing plants and by hospital and public-health services.

The purchasing of large quantities of canned fishery products for use by expeditionary forces and for export under the lend-lease program were seen as definite limiting factors on the quantity of canned fish available for domestic consumption. To counteract this effect, extended study was made relative to preservation of fishery products, a study that may enable the fishery resources of Alaska to supplement the domestic supply with minimum requirements for shipping space. Attention was also given to the rapidly growing importance of cold-storage locker plants, some 3500 of which are available in this country and can be used in substituting frozen for canned fish. Fish producers, distributors, and locker-plant operators were acquainted with the manner in which channels of distribution can be established for utilizing this equipment. Close to half a million tons of fresh and frozen fishery products have been annually packaged in tin, including salmon, shad, sardines, tuna, mackerel, crab meat, shrimps, clams, and oysters. With the tin supply as it is, the Service has engaged in experimental and research work on substitute metals, on determining the species of fish that can be best marketed in forms other than canned, and on the standardization of the can sizes for sea foods.



Photo by J. Malcolm Greany, U. S. Fish & Wildlife Service.
U. S. M. S. "Brown Bear", Salt Island, Aleutian Islands, Alaska, August 5, 1941.

Specialists of the Service collaborated with the Navy Department and the Maritime Commission to maintain a proper balance between the number of vessels in each fishery taken for military use and those retained for food production, and with the Agricultural Marketing Administration to enable that agency most efficiently to purchase fishery commodities for lend-lease use. One expert visited Iceland on a detail relative to fishery matters for the Office of Lend-Lease Administration, pausing en route in England to make a rapid survey of distribution of lend-lease fishery products there.

In cooperation with the Coordinator of Inter-American Affairs and the Department of State, a survey of the fisheries of the countries surrounding the Caribbean Sea was undertaken. Not only has this work promise of leading to the discovery of new fisheries and consequently new supplies of food, vitamin oils, and industrial raw materials to be developed locally and perhaps tapped by our own fishermen, but it has also, it is hoped, advanced our good neighbor policy.

For the Office of Price Administration, War Production Board, Public Health Service, War, Navy, and State Departments, Inter-American Development Commission, and other Federal agencies, additional studies are being made, or the services rendered by fishery specialists levied upon, to appraise species of fishes that can be canned in quan-

(Continued on page 18)

PREPARING TO TRAP



Photo by The Author.

Tracks of fur-bearers are often found under bridges.

THE part that contributes most to successful trapping is preparation. Without it a trapper cannot expect to accomplish much. It is important to have everything lined up so you'll be ready when the fur harvesting time arrives. Autumn is not so very far off, and the first signs of the cool, crisp days ahead will soon appear. The new crop of fur-bearing animals is reaching the age of maturity, although these animals will not be ready to take until they are prime—a condition which varies somewhat with the different species.

Many of our trappers are in the Service now and more are joining the ranks. A year ago the shortage of experienced trappers was evidenced by the smaller fur catch. This year good trappers will be even fewer so it will be mainly up to the younger fellows of high school age and those over thirty-eight to harvest the annual fur crop.

There are two specific jobs to be done now while there is time to do them. One is a thorough going-over of the contemplated trapping ground and the other is getting the complete trapping outfit into tip-top shape.

The primary purpose of prospecting an intended trapping area is to find out what there is in the way of fur-bearers, learning where they live, distinguishing the signs that they leave, and taking into account or spotting out the best places for setting traps later on. This is a highly fascinating part in itself, and if you are cut out to be a trapper you should take to this preliminary work like a duck takes to water. Much can be derived from observing the habits of the animals that are valued so highly for the fur they grow on their backs, and matching wits against these cunning nocturnal creatures of the wild.

Fur-bearing animals inhabit every county of Pennsylvania and one area is apt to be just as productive as another. It is quite commonly supposed that these animals live mostly in remote wilderness areas that are far from populated towns and cities. The fact is the biggest percentage of our furs are taken out of our farmland districts. There was a time, of course, when Pennsylvania harbored its share of the real wilderness fur-bearers, as the fisher and the marten, which made their homes in the primeval forests, but these creatures passed on with the passing of the virgin pine and hemlock that grew on every mountain. Then there was the panther, victim of wanton destruction; and the wildcat, which dwindled down to near-extinction as the result of high bounty pressure; the otter, driven from its original range by pollution from our tanneries, mines and mills, and now making a last stand in the lake region of our northeastern counties.

According to all available information about beaver colonies, they too had been wiped out of existence by trappers and hunters largely on account of the fact there were no adequate laws to protect them. We have beavers in Pennsylvania now, not because they came here on their own but because the Game Commission purchased and released several pairs years ago for restocking. These animals fared well under the protection of the law and the trappers and hunters have profited as a result.

The most common, or at least the most commonly known, of our fur-bearers are the skunks. They range widely throughout our farmland districts and are to be found even within our settled communities. They live in underground burrows or dens and under outbuildings. As a rule the skilled trappers know where to look for signs of the fur-bearers and they generally rely on two distinct marks of detection—the dung or droppings and the footprints. As in the case of skunks, one need not be concerned about their signs since skunks are certain to come to baited sets during the course of a trapping season. The traits of oppossums are somewhat similar to those of skunks, and oppossums, too, come as easy marks to willing trappers.

On the preferred list among both the skilled and the inexperienced trappers the muskrat holds a place of prominence. The muskrat is a water animal. It lives in the streams, marshes, ponds and rivers where grasses and other vegetation flourish and provide it with food. The home of the muskrat is usually a subterranean cavity in the bank along the water, except in marshes and marsh-like water areas where the muskrat family lives in dome-shaped houses which are constructed of sticks, grasses and mud. These little huts are easily distinguished wherever they are to be found, and this is about the time of the year when the new homes commence to take form.

The dung of the muskrat is dark green in color, about an inch in length and as thick as an ordinary pencil. Deposits of it are usually found on logs, stumps, rocks and other debris and high points of the muskrat's habitat. Footprints are apt to be deceiving to the amateur trapper since the



Photo by The Author.

Muskrat environment.

By S. V. Sedlak



Furs trapped by Quentin E. Shelly, New Cumberland, Pa., during the winter of 1941-42. Mr. Shelly missed the 1942-43 season because of a date with the U. S. Navy.

tracks of various creatures are usually intermingled about the places commonly frequented by muskrats.

Minks and raccoons leave a considerable amount of sign along the water also. The dung of minks is somewhat thicker and longer than that of the muskrat and it usually contains the remains of crawfish or traces of fur and even small bones. This dung is also found on high, dry places in or along the water course. The dung of the raccoon is about as thick as that of an average-sized hunting dog and the contents may show traces of any one of a variety of foods that the raccoon eats. Corn may be in evidence if cornfields are easily accessible; wild grapes or other berries or fruits such as are available at this time will show up well from now on. The raccoon's hind feet leave tracks that should be easily recognized by the most inexperienced eye. Their imprints have the resemblance of a human baby's foot. Beavers can be located by aspen tree or other cuttings close to water.

Weasel signs are difficult to locate, and while the weasel is very much at home in almost any kind of upland terrain, the most success in trapping for them is likely to be had in rough, rocky territory.

Foxes are to be found in the higher altitudes as a rule, and their tracks, which resemble those of the common house cat, are to be found in sand patches or other soft dirt in old wood roads and trails. Their dung usually contains traces of bones, fur or feathers in some instances, and even wild fruits and berries. It is somewhat smaller in size than that of the raccoon's and is usually found deposited on stones or some other protruding material such as is common along the back roads.

Knowing the signs of these fur-bearers and knowing the places where they live will help one to make effective sets later on. In the course of an observation the would-be trapper should take ample time to study all the tell-tale signs that he comes across. As to the amount of time required to make these advance outdoor excursions and observations that is entirely up to the trapper. The more time one devotes to the study of a game the more benefit he derives from it.

For a beginner the proper place to learn to trap is within easy reach of home. One is mistaken to think that there are no fur-bearers as close as that. There are foxes, raccoons, minks, weasels, skunks, muskrats and oppossums within and about the city limits of Philadelphia and Pittsburgh, so there must be some fur around any smaller town. Fur-bearing animals travel in the dark of the night; they are seldom seen in daylight, hence their presence is apt to be unnoticed by one who is not familiar with them.

It is always advisable to seek permission before entering upon the lands of others, particularly if the lands are posted against trespassing. As a rule a landowner or tenant will allow one to trap on posted premises if he is approached properly.

Remember, the trapping outfit should be made ready in advance. The essential needs are: hunting license, traps, name tags, small hatchet, small garden trowel, sharp pocket knife, fleshing tool and stretching boards. Pliable wire is a pretty handy article to have on hand also. Other needs, although not altogether necessary, are the pack-basket, pliers, snips, skinning gambrel, prepared baits and lures.

Steel traps may be quite a scarce article this year since the trap manufacturers are producing war-time needs. However, hardware stores and other handlers of trapping equipment may still have ample supplies of this article on hand. If a trapper is not familiar with the different features of steel traps he should ask for the Number One size if he expects to trap for the smaller animals such as skunks, oppossums, weasels, muskrats and minks. If he expect to trap for the larger animals, such as raccoons and foxes, he should order the Number Two traps. The Number Two trap will work effectively on the small fur-bearers also, but the Number One trap will not do for trapping the larger fur-bearers.

Name tags are obtainable from trap companies and others who cater to the needs of trappers. These tags can also be made at home by cutting up a strip of metal such as aluminum, copper, brass or tin; then with the aid of a steel stencil set, the name and address can be impressed. For each trap, wire trap, box trap, snare or deadfall a name tag is required in order to comply with the law.

The hatchet is used to cut stakes and trap beds, to pound stakes and staples, and to pull out stakes and staples. The trowel is used to dig out bait holes, the sharp knife is used to take the furs off, and the fleshing tool (an old heavy metal spoon will suffice) is used to scrape off all surplus fats.

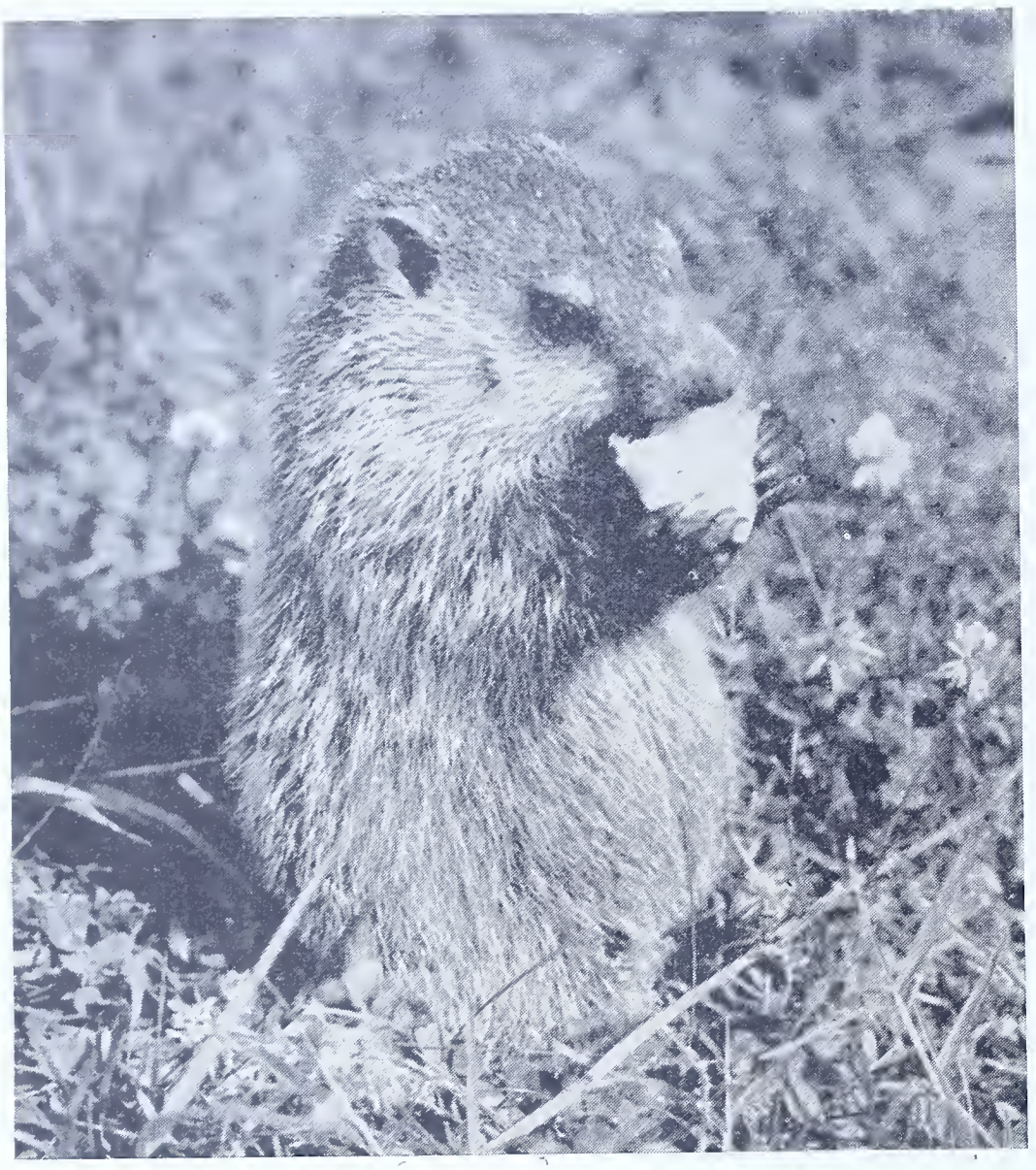
Stretchers to dry the furs are also obtainable from trap companies, but these can be made at home out of thin boards and out

(Continued on page 17)



Photo by Ed. Danko.

Trapper with a mixed collection of raw furs.



Woodchuck

THE WOODCHUCK

*By Daniel H. Fackler**

THE woodchuck is known by many names, most common of which are groundhog and whistlepig. It is a rodent or knawing animal, closely related to the prairie dogs and ground squirrels, but much larger. The woodchuck is native to Pennsylvania.

The thirteen different species and subspecies range over a great part of our continent north of 35° latitude to the Arctic Circle. The range of our eastern species is from New York to Georgia, west to the Dakotas and south to Virginia, Kentucky and Tennessee. There is much reason to believe that the 'chuck has increased with the settlement of the country.

The average adult chuck weighs between eight and nine pounds. A writer in *Forest and Stream* gives the average weight of 158 animals to be ten pounds, the heaviest of which was thirteen. The total length is 22-25 inches overall.

The woodchuck was originally a forest animal, but now prefers the sunny openings, stumps, clay banks and gravelly ridges. The daily cruising radius is relatively small. It is rare for the 'chuck to wander more than 100 yards from his home, if the food requirements are there. A needed change in environment may result in a migration of a mile or more, until he finds a location to suit his taste. A new den or burrow each year seems to be the plan of life. This migration may occur day or night, any time of the year, except in deep winter.

The mating season is believed to occur about the middle of March. They are usually seen in pairs in early Spring. After the allurements of the love season are over, the male, in most cases, leaves for other scenes but probably not for another mate. There is some reason to believe that the selection of mates also takes place in the Fall because hibernation is usually in pairs. However, actual mating does not take place until Spring, because the gestation period does not exceed six weeks.

The young are born the latter part of April, usually four or five to the litter. Born exceedingly small and undeveloped at birth, probably blind for a month, they do not venture from the den until they are six or seven weeks old. They begin to eat solid food as soon as they are able to go forth and find it. The mother or both parents attend them very carefully at first, teaching them where and when to eat, as well as the dangers of the outside world. Grass and clover are the favored foods. At times they cause considerable damage in gardens and truck patches. The young are especially noted for this troublesome adventure. As the end of August approaches they are nearly full grown and scatter out to make a home of their own.

The den or burrow of the woodchuck may be found either in the woods or on the rolling pastures, but preferably on the border between the two. The one entrance is apparent by the presence of a pile of excavated ground, which is used as a lookout. The other opening is concealed by grass or brushy cover and is used as a retreat entrance in escape from danger. The length of the burrow varies. One investigator found that nine burrows ranged in length from seven to forty-eight feet. The deepest point was 49 inches. They are so constructed as to permit proper water drainage.

Sanitation is very evident in the life of the woodchuck. When the call of nature is felt the animal will go a distance from the den, bury the excrement and cover it very firmly in the ground. If this exit cannot be made, it is deposited in an especially provided place, to be removed later. It is believed that the old will literally bury themselves before dying. This practice has been observed by several naturalists.

Usually disease and insects come first in considering a creature's natural enemies. This is not the case with the woodchuck. There is no record of plague or epidemic taking a toll of this race, nor does it seem to suffer from insects. Barring man, the animal's chief enemy is the red fox. If the fox cannot take him in a match of wits, he will try to dig him out and occasionally succeeds. He is a clever fellow, however, and heavy tolls by various agencies in certain areas did not result in an appreciable decrease in his population density.

In 1937 the Division of Research of the Pennsylvania Game Commission began a series of studies to determine the relationship of the woodchuck and the cottontail rabbit. Although this investigation is far from completed, the initial results support the beliefs of conservation officials and numerous sportsmen that old whistle pig is an invaluable ally of the cottontail.

The research involves both laboratory and field investigations. The field investigation includes a number of different problems, principal among which is a study designed to discover what advantages holes or burrows have in respect to desirability as

(Continued on page 17)

* Written while a student at the Pennsylvania Game Commission **Training School.**



Photo by W. L. R. Drake.

Each hunter took an average of more than 3¾ pounds.

Farm-game Program Yields Big Dividends

By C. C. Freeburn

THE Cooperative Farm-Game Program was authorized in the Spring of 1936, and two projects containing 1,900 acres were set up prior to the 1936 hunting season. A steady growth of the areas involved in the program was made up to and including the fiscal year 1940-41. The following year (1941-42) a slight decrease in the acreage occurred, but during the past year (1942-43) the project acreage increased rapidly to an all time high.

The program is still too young to determine whether it should become a permanent part of Pennsylvania's wildlife management plan. However, it has been instrumental in opening to public hunting, lands located in the thickly settled and intensely hunted agricultural sections of the State. Also it has been the means of improving the relationship between many landowners and hunters, and has definitely demonstrated the value of large numbers of small retreat refuges.

During the 1942 hunting season an estimated total of 48,085 hunters took advantage of the 73 Cooperative Farm-Game Projects which now total 158,317 acres. This is an estimate only, and is based on observations made by Deputy Game Protectors assigned to projects, and on reports received from our regular salaried field men.

Hunters on the projects during the past season secured, at a conservative estimate, a total of 94,736 pieces of game, divided as follows:

56,862	rabbits
523	ruffed grouse
11,692	squirrels
23,579	ringneck pheasants
1,790	bobwhite quail
277	raccoons
13	deer

This total indicates that each hunter took an average of approximately 2 pieces of game from a Farm-Game Project, and that one piece of game was killed for each 1.7 acres of *total project area,* or one piece of game for each 1.2 acres of *project area open to public hunting.*

The *1938* kill was 73,034 pieces of game on 59 projects, which then totaled 73,825 acres; the *1939* kill was 64,192 pieces on the 83 projects containing 131,467 acres; the *1940* kill was 84,110 pieces on the 82 projects comprising 151,527 acres; the *1941* kill was 85,358 pieces on the 79 projects totalling 147,584 acres: or a grand total of 401,430 pieces of game were removed during the past five hunting seasons from project areas at least half of which acreage had been closed to public hunting prior to the adoption of the Farm-Game Program.

The game killed during to 1942 season weighed approximately 181,676 pounds. Figured on the basis of 40c per pound, the value of the game killed this past season, therefore, amounted to $72,670, or 46c per project acre. In terms of weight, each hunter took an average of more than 3¾ pounds, and valued at 40c per pound, this amounted to $1.50 per hunter.

A convenient chart showing these comparative figures is included.

The following game was stocked on Cooperative Farm-Game Projects during 1942:

3,239	rabbits
12,748	ringneck pheasants
2,009	bobwhite quail
98	squirrels
18,094	Total

Many acres of food plots were planted or bought from cooperating farmers during the year. These were scattered over the area in small plots for the purpose of providing a supply of food and cover for wildlife. A number of farmers cooperated, without compensation, in planting food plots and others agreed to permit some uncut grain to remain in the fields for wildlife without cost to the Commission. Additional grain raised on State Game Lands by sharecroppers was used for necessary winter feeding on the projects.

There is shown a chart giving the cost of the various functions of the Cooperative Farm-Game Program each year since its beginning in 1936.

The per-acre cost of each function has steadily decreased from year to year until the end of the fiscal year 1940-41. Further decreases were noted the following year, and again this year. However, most of the decrease during these two years occurs under "Development and Maintenance," and is largely due to the fact that No. 9 galvanized refuge wire and metal refuge signs cannot be purchased for the duration of the present war. Consequently the costs shown under "Establishment" for the period are also quite low.

It will be noted that the cost of "Protection" has been fairly constant for three years. This should seldom, if ever, exceed 5c per acre in the future.

Development and Maintenance costs will rise by the end of the fiscal year 1942-43, due to the planting or purchase of food plots during the Spring of 1943.

(Continued on page 22)

Days Afield

October 29. Temperature in the low forties—weather moderately clear. It was almost three before I could take gun and dogs afield for another try at woodcock. One zoomed up near the old lumber mill site. It dipped and zig-zagged through the thorn thickets and I watched it down without shooting. It lit in a clump of quaking aspen farther up on the flat. The trees were quite bare so I felt reasonably sure of a good shot, though the ability of these birds to hide is little short of phenomenal. The two older spaniels and the five months old pup, Dixie, and I combed that thicket thoroughly without result. I was about to give up when the bird flushed almost at my feet. He had not flown as far as I thought. He afforded a good clean shot above the aspens, but he caught me napping and eluded a hurried charge of sixes from the choke barrel, and made a clean getaway, for we could not flush him again. The dogs worked excitedly along the trail through the side-hill slashing, putting out a nice grouse that hurtled across the trail in front of me, giving me a nice chance for some dry pointing, but the gun never really got on him and had he been in season, it would have been a miss. We worked the slashing down to the creek, where the going was really tough.

I am pleased by the work of the pup. She takes the thickest cover unflinchingly, showing no trace of being either briar- or gun-shy. Sam rammed into a heavy hemlock thicket, yipping wildly as three grouse took off and headed up the slope. One of them really would have been a nice shot. Two more days till the season comes in. There was much evidence of the beavers' work along the creek. Innumerable cleanly chewed sapling stubs marked the banks on either side. I hope they move into this country again. No beaver trapping in the county this season, which should help. On the point crossing a buck had shredded the bark of a small ash tree to polish up his rack. Signs are not as plentiful this year; the open season on both sexes really thinned them out in this section.

Farther up the hill on the north side of the creek the dogs flushed two more grouse from a wild grape tangle, neither bird offering more than a rank snap shot. Up on the ridge below the big rocks there were numerous coon and fox signs, and another grouse took off from the top of one of the boulders, where it had apparently been watching our approach. Circling the hill back towards the cabin, Sam flushed a woodcock directly in front of me. It was an easy shot. Almost at the camp the dogs got excited and dashed madly around a huge fallen tree. A grouse hurtled out past me, so near that I could almost touch him, and headed straight away towards a patch of woods. A shot to dream about, for around here open shots are rare, seeming specially so when the season is in.



Blackheath Susan (Sue) retrieving the first grouse of the season on the flat above the cabin.

It was almost dark when we reached the cabin. There was just time to fill the water buckets and the coal bucket before supper. Old Sue, the best retriever of the lot, seemed slightly better than she has since she was injured in a collision while chasing a rabbit with Dinah. She will never be ready for the opening day. After supper I finished reading R. E. Byrd's *"Alone."* What a magnificent book! After reading it I'll try not to complain of the cold this winter. Our ten degrees below is a far cry from the eighty-three below zero at Advance base.

Saturday, November 1st. The first day of the regular hunting season. Still raining and a little too warm when nine o'clock arrived. Frank had pulled in about 7:45 A.M., and Sam about the same time, but Walt still wasn't there at 8:45 so we left without him, for we had about half an hours' drive to the farm where we were to start hunting. On the way we picked up Mac. Sam decided to go back and set some coon traps, so the three of us finally climbed out of the car at about 9:20, just about twenty minutes too late for Don and Charlie had already gone through the field with their two setters, though we did not know it at the time. They had put up three ringnecks but bagged none. We walked through the corn and through a big woodlot without sighting any game



A hunting or fishing diary makes good reading on long, wintry evenings.

By H. T. Wieand

whatever, though Sam and Jingo, our two springers were hunting nicely, staying just close-in enough and barging through every briar patch and brush heap. After an hour and a half we worked through another corn field, and along the lower edge Frank and Mac were amazed when a big Canada goose burst into flight. While they watched it, Jingo flushed a ringneck rooster from almost the same spot. Caught off guard, Frank missed both barrels on a beautiful open shot. We commented on the strange hollow sound of the borrowed shotgun Frank was using. We had marked the rooster down and started for it, but a farmer drove along and ordered us off the field, though it wasn't posted, so we turned back to the cornfield again. Sam, the male springer, flushed four hens on the way through, but no more roosters. A field of alfalfa netted us two rabbits, and another cornfield another rabbit and a clean miss of an easy shot at another. Meanwhile we discovered that Frank's borrowed twelve gauge was in reality a ten gauge in which he had been using twelve gauge shells, so the mystery of the peculiar noise of its discharge was solved. Frank spotted a big fox squirrel in a red oak, but in spite of our joint maneuvering we never got a shot. It was nearly lunch time, so we headed back to the car, skirting a big marsh along the edge of the game refuge. It was miserable going. Frank went in over his cruising shoes and I fell headlong over a hidden snag. One rabbit took out. We missed it, and a bit later passed up a bevy of quail, for they have been so scarce that they are seldom shot around here. I cut down into a corner of the marsh not twenty yards from the car and the road. Frank broke his gun and took out the shells just as Sam sprang a nice cock bird that took off between Mac and Frank. I took my time and shot carefully but nothing happened, so I pulled the left barrel and a few feathers flew and he dropped his feet and lost some altitude. But he climbed right over the trees as Mac shot twice. We marked him down and five minutes later the dogs smashed through a thorn thicket and we heard a loud cackle and wings beating madly against the branches and he burst out into the open again. I shot twice, but missed again. Feeling pretty low we watched him soar across a little lake and effectively away from any further pursuit by us. Back at the car I took some berating as we climbed into the car and drove to the farm house for lunch.

Walt and Dad were there, but we had no time to talk to them, for they were on their way out again. After a good lunch and a smoke we followed. It was raining harder than ever. We saw no more birds, but I missed three rabbits, while Frank was shooting two more, one of them on a long shot of at least sixty yards, the rabbit jumping and jerking like a Mexican jumping bean. I never saw such a performance before. Upon examination we discovered one shot in the rabbit's head. Frank saw another near a fence and shot it sitting, blowing the head off it neatly. That ended the scoring for the day. Final score: Frank three rabbits out of fifteen shells; Mac skunked, eight shells; myself two rabbits, twelve shells. A poor first day judged by results, but as for fun it was one of the best.

Back at the cabin by dark, we rehashed the day and played a few rubbers of bridge. To bed and glad of it at twelve o'clock.

Sunday, Nov. 2. Weather clearing; about 38 degrees at 8 a.m. Sam and I took in the trap line which he set yesterday. We took one raccoon, rather small, pelt in good shape. In the afternoon Walt and Frank went with us and we rigged up a block and tackle and pulled the heavy boat high up on the bank, for the river has been rising steadily. We took the outboard motor from its cave hiding place and hung it on a pole and took turns lugging it up the mile-long grade to the cabin and hung it in the cellar till next year.

November 28th. Sky cloudless again. 34 degrees at 7 a.m. rising to 58 degrees at 3:30 p.m. The morning was magnificent, almost miraculous for the time of year. I ran the trap line again and found two traps set off, one of them holding a medium coon which I skinned and put in my game pocket. It was below freezing in the deep glens where my trapline took me; the trees had a heavy coat of hoar frost and new ice rimmed the



Sam and Sue with a bag of three grouse between the two Ithaca doubles. The birds are hard to see but they are there.

still pools. I sat for a spell along the river and thrilled to the beauty of the morning. The rising sun divided the hills across the river with its shadow, cast by the steep ridge to the southeast, towards which a flight of honkers, hooting far above me, wedged their way ahead of a big transport plane on the beam. No beam for the geese! How do they do it? After they were mere dots on the horizon, visible only as a thin undulating V, their calls floated back like the many-pitched voices of a baying hound pack on a distant hill. Across the lagoon a muskrat was digging for roots in the warm sunlight. A good place for a trap on Monday. Back at the cabin by 10:00 a.m. After dawdling away several hours I gathered up gun and the two older dogs and meandered carelessly along the ridge above Griffin Run, putting up several birds; I was too slow to get a shot. Met Helen out near the big rocks with the other three dogs. Walked together towards the cabin and put up three birds, marking one down just over the brow of the hill.

Sue flushed it and I got a hurried, but clean, shot at it just as it towered above the big hemlocks, and it thudded down in a cloud of feathers on the slope below. Sue retrieved. Last bird of the season for me, and a happy ending. Spent the evening before the fire smoking and trying to figure out the Xmas gift problem, reaching only one conclusion; not enough money.

1942 Season—November 28; last day for small game; temperature 28 at 8 a.m. sky clear.

Ross Hill, Wally Pickett, and Frank Connor came up last night. This A.M. the four of us set out through Griffin's woods with four springer spaniels. A grouse flushed ahead of Frank. Flushed again between Pick and me, and I shot twice as it slanted off behind me into the sun. Missed. In the sheep pasture the dogs kicked out a rabbit and I got a nice shot at about thirty yards. Sue retrieved. Frank missed a grouse crossing the open in front of him. It was his first upland game hunt. He blessed the Ithaca twelve gauge pump. (After he has missed as many easy shots as the rest of us, he won't blame the gun.) We crossed the run and flushed another rabbit which headed for the brambles with the four dogs in frenzied, squealing pursuit. Ross and I could not shoot for laughing as all four of them slammed into the rail fence and climbed over each other as the rabbit darted under to safety. Finally they clambered over and lit out yelling, but the rabbit was safely holed up there in the abandoned orchard. We crossed some old fields that looked gamey and unhunted and Ross picked off a rabbit on a nice shot. The dogs routed another and Frank shot it cleanly. (Nothing wrong with the gun!) It was his first game on an upland hunt and he got a real kick out of it. He'll still get that thrill if he is still hunting them twenty years hence. The Red Gods wear well. It was almost noon as we swung south again. Pat, the liver and white pup, started working carefully in the marsh. She acted like she might be on a ringneck, but I had never known of ringnecks to be taken in this section, so I paid her little heed. But when Sam, the old veteran, started working I got interested. Just on the other side of a fence row, in a shin-deep patch of bog, a rooster cackled and took off directly towards me and back over my head. The brilliant sun reflected from his irredescent feathers. He fell like a stone on a little rise of ground near Ross, who picked him up just as Sam was about to grab him. It was a fine bird. Later we found it to weigh 3¾ pounds and to measure almost a yard from head to tail-tip. Dixie routed a rabbit which ran toward Pick, but he was careful of the pup, which was close behind it, so he didn't shoot, and the bunny holed up under an old foundation. Later, in the McGuffen slashing Pick took three shots into the brush after a rabbit, but it holed up, wounded. Ross put another out of a woodlot and it came towards me as he yelled for us to shoot. It stopped under a little hemlock. Pick couldn't see it, so I shot it and Sue retrieved. Across the creek we flushed two grouse out of range, and Sue let out a yipe as a rabbit took out under

(Continued on page 30)

This is Ours to Fight For

(Continued from page 7)

saucers, because the first thing I knew three eye-shot fox-squirrels were out of his coat and I was caressing their fur. But Mr. Cooper was a quiet man, and he didn't say a word until I blurted: "When are you going to take me hunting with you, Mr. Cooper?"

He looked down at me, and in a sort of uncertain manner said: "Some day, little fellow—maybe before the summer is over."

I was elated. Over a warped mop handle I sighted the biggest squirrels you ever saw in our maple trees the rest of the day. After that, I saw Mr. Cooper about once every week or ten days. He always had squirrels, and I always asked him, with glowing eyes: "When are we going after squirrels?"

Thus one Saturday, along in September, Mr. Cooper carried out his promise and took me to the wilds of Buck Creek—a whole two miles from town. "Old Pup" went along, too, and so did the Favorite rifle. To this day I do not know enough beautiful adjectives to describe that experience. The infection was complete.

Yet I was just an average American boy who had an opportunity that millions of others have enjoyed and that millions more have not.

How would you like to live in Italy, where a large proportion of the people are so poor that they have to trap and snare song birds, blackbirds, and such for a meat supply? Centuries of that kind of wildlife use have destroyed the game species on areas where the everyday citizen is allowed to hunt. There are places in Italy where the nobility and upper class can hunt and still find game. Believe it or not: one fifth of the national territory may be reserved by owners or by hunting associations. That kind of a system leaves Nick and his fifteen brothers on the outside looking in.

For years we have heard about the wonderful game management carried on in Germany. What most of us did not hear was that hunting in Germany has always been limited to the owners of estates, their guests, and the high and mighty. Several years ago, an organization interested in American game made a study in Germany and compared the success of management of thirteen game species with thirteen similar species in this country. The investigation revealed five draws, four better survivals in Germany, and four better survivals in the United States. But in drawing its conclusions, the organization failed to point out the differences of hunting pressures in the two countries. The German system might be fairly successful for a few Germans, but I can imagine how successful such management would be if the hunters from one American state, such as Pennsylvania, were turned loose in Germany. No, the American system of game management for every John Henry is so much more colossal than anything Germany has that there is no comparison. John Henry (I should say, Fritz) does not hunt game in Germany.

Since boyhood I have read about the wonderful grouse hunting on the Scottish moors. Do you know why it is good? Those moors are divided into estates from several hundred acres to several thousand acres in size. They are owned by the wealthy. Most of the tracts are handed down from generation to generation. You happen to be Lord Riverbrake, and by being born with such a name you can hunt grouse. (This is no slap at our courageous ally. England is a great country and we have much to be gained by being associated with her, but we do not need her system of land ownership, particularly when it comes to hunting.) Even the Englishmen who own those game lands have to lease them out, in many cases, to derive an income to remain solvent. So each year those moors are shot over by people who have the money, and enormous bags are taken by a few shooters, the game being sold.

In some years, on some of the better managed British estates, as many as 10,000 grouse are killed on 24,000 acres. Sounds



This is ours to fight for!

impressive, doesn't it? Shucks! We have lots of areas as big as the whole of Wales in South Dakota, Iowa, and Minnesota, where the kill of birds is twice that figure for the same acreage. Olie from the foundry works and Jimmy from the drug store get just as many as Mr. Bigshot from Minneapolis. The American way is so much better that there is no comparison. Even a non-resident can go to South Dakota and kill twenty-five pheasants (and, brother, I mean kill *twenty-five*) for a $15 license.

If you are of French ancestry, and like to hunt, you should be especially glad you live here instead of in France. Centuries of trapping birds with nets in southern France has depleted thousands of acres of feathered wildlife. The average Frenchman has never had the opportunity to learn what the sport of hunting is. The only places in France where there is game are in certain parts of the country where there is a predominance of private hunting areas.

So you are a duck hunter? To begin with, God gave North America the greatest variety and density of waterfowl in the world. Through our carelessness and optimism we almost ruined this resource; but in 1935 we woke up, and since that time we have created thirteen million acres of breeding, refuge, and resting areas and—with the additional help of sensible shooting regulations—have almost quadrupled the population in seven years.

Well, let's look back across the Atlantic, and see how European waterfowl have fared with the passing of time. As European waterfowl migrate from the Arctic and the North Sea to Africa, they pass over a score of countries and colonies. To this day those countries have failed to get together and set up a treaty regulating the shooting and protection of that great group of sporting birds. Of course, it would be too late now, in many cases, because most of their former members are gone. When you shoot the last male or the last female of a species, all the good will, treaties, and hopes imaginable are not enough to restore it. If you like to hunt waterfowl you had better stay in America. I might add that in spite of our uneducated ways (in the eyes of many Europeans) we had sense enough in 1918 to draw up a treaty with Canada and Great Britain for the protection of our migratory birds; and in 1937 we made a similar treaty with Mexico. If England, France, Sweden, Norway, Germany, Italy, Austria, Hungary, and the rest had got together with similar treaties and management programs about 100 years ago, they too would still have wild ducks for every Tom, Dick, and Harry.

Big game! Kill a great stag, blow the horn, tip the glass of success! A big politician with a swastika armband can do that—but not Fritz in Hamburg. In the one season of 1940, some 187,000 deer were killed in Pennsylvania alone. Enough said. Our big-game herds are being managed and perpetuated for the use of every Jim Smith from coast to coast. You can have all the European systems of big-game management you want, but give me the American way.

There are several minor powers, dominions, and colonies where the average sportsman is allowed to own a gun and to hunt. Canada is the outstanding country in this respect. The ideals of the founders of Canada were much the same as ours and this is reflected in the rights and privileges of her people. However the hunting rights and opportunities for hunting for the average citizen in most Old World countries is lacking. In many countries it is legal to own firearms, and hunting rights are allowed; but economic conditions make most people unable to afford guns, ammunition, and equipment.

What is the American way of game management? It is a plan of protection, environment improvement, refuge systems, and public support for the management and perpetuation of our wildlife resource for the use of every American boy, girl, man, and woman. Our states administer the laws managing the wildlife within a state, and in recent years most states have got to the point where they are doing excellent jobs.

(Continued on page 17)

Preparing to Trap

(Continued from page 11)

of fairly heavy, pliable wire. Different sizes are required to fit the various furs. All stretchers should be built so they taper gradually toward the head. The wooden forms should be beveled and planed down smoothly, then sandpapered so that the green raw furs can be slipped on without tearing and pulled off easily when the furs have dried. The following dimensions explain the construction of stretchers:

Weasel	Form length 24 in.	Max. width 2½ in.	Shoulder width 2 in.
Muskrat	Form length 24 in.	Max. width 7 in.	Shoulder width 6½ in.
Mink	Form length 30 in.	Max. width 4 in.	Shoulder width 3½ in.
Skunk	Form length 36 in.	Max. width 7 in.	Shoulder width 6½ in.
Fox and Oppossum	Form length 48 in.	Max. width 8 in.	Shoulder width 7 in.
Raccoon	Form length 48 in.	Max. width 10 in.	Shoulder width 9 in.

If the stretchers happened to be a little shorter in length it would not make much difference, but the widths should be adhered to as closely as possible. Otter and wildcat skins could be dried on stretchers used for foxes and raccoons, whichever shows the best fit. The pelts of beavers are usually tacked up and drawn out in an oval or circular shape on a wooden wall.

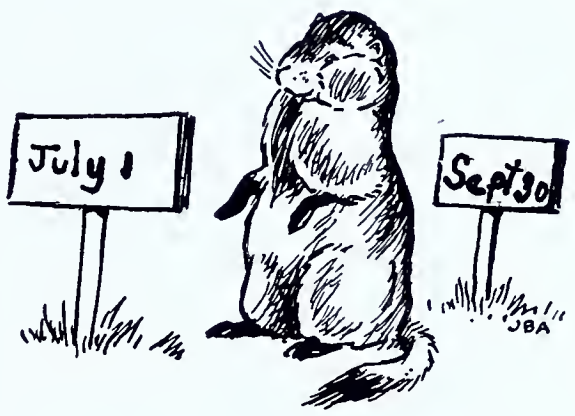
Another thing that we want to bear in mind is that the war demands will continue to require great amounts of fats such as are rendered from fur-bearing animals. Clean containers, tin buckets, cans or something similar, should be made available to hold these fats, and then they should be taken to the nearest fur buyer, rendering plant, meat market or other approved fat collecting station just as soon as a can or two is filled. During the past trapping season the trappers and fur hunters of Pennsylvania saved 94 tons of fats for the war effort—a real contribution to our country. We should double our efforts to double that figure this Fall. To be *ready*—that is all-important.

The Woodchuck

(Continued from page 12)

shelters when unfavorable weather conditions prevail. Four different types of cover were compared; namely, a hollow log, a hole of a hibernating woodchuck, a hollow stump, and a rabbit form at the base of a small pine tree. Minimum and maximum temperatures were recorded at each location. It was believed that air temperatures were more instrumental in attracting the rabbit to holes than the mechanical protection the holes offered. The less fluctuating temperatures of the woodchuck burrow was found to be more desirable to the cottontail than the other types of retreats. This was proved in the laboratory studies by the use of the climoactometer.

The effects of varied environmental temperatures upon the general physiology, body temperature, and activity of the cottontail were the chief concerns. The tests revealed that the cottontail, without adequate cover, is able to withstand only relatively short periods of cold weather without serious results. In general the field and laboratory investigation so far obtained appear to substantiate the long-held belief that the groundhog is highly beneficial to the cottontail rabbit, in that the former supplies the latter with unusually desirable winter retreats in the form of underground burrows.



Since the reclassification of the woodchuck by the Game Code in 1937, from the status of predator to that of a game animal, its popularity is rapidly increasing. This action was taken to insure its preservation because of its value to the rabbit, and to control those rifle enthusiasts who pursue the animal for sport. Woodchucks are good eating. If the proper care is taken when handling the carcass after the animal has been killed, and if wise preparation for the table is made, a delectable dish will result.

The biggest management problem in regard to this animal is that of keeping its destructive activities at a minimum. In some cases damage complaints can be settled by trapping and transferring the animals to another location where there is plenty of natural food removed from gardens and cultivated fields where damage is likely to occur. If they cannot be trapped immediately, they should be killed, as a great amount of damage can be caused in a very short time.

If there is a concentration of woodchucks on an area that is considered good rabbit range, every effort should be made to keep them there. This range can be made more attractive by planting the desired foods such as clover, grass, and corn. Old stumps and openings are desirable for sunning. Since the woodchuck's presence is beneficial to the cottontail, management would really be twofold. In other words, management for the rabbit should include making the range favorable for the woodchuck.

As a game animal, I believe the importance of the woodchuck will increase year by year. Hunting pressure is increasing due to the increased number of hunters taking advantage of the opportunity to kill this animal, either by shotgun or rifle, during the open summer season when other game animals are protected. If this practice continues it may become necessary to limit the season quota, and also manage to improve the range. At the present time there is little need for management. However, an inventory should be taken annually to insure the perpetuation of the race. It is to the sportsman's advantage that the woodchuck continue to thrive.

This is Ours to Fight For

(Continued from page 16)

The federal government administers the laws dealing with our migratory wildlife. Of course we have made errors, and we will make more in the future—but we are getting the job done. We have more game protectors, more research men, and more qualified game administrators than all the other great powers combined. This is the American way.

Our whole system is stupendous. Today we have more than 400 million acres in state and federal wildlife refuges and reserves. This acreage is greater than the combined acreage of all the British Isles with Germany, France, and Sweden thrown in. Our hunters have more firearms than Germany has soldiers. The sportsmen in the United States took at least 200 million pounds of edible meat in the form of game last year, and that represented an annual harvest without hurting the breeding stock.

I don't believe that Hitler, Mussolini, Hirohito & Co. really understood how much inspiration Americans have for fighting when they started the present fracas. Tom Smith in Podunk has many more things to fight for than Nick in Naples, Fritz in Hamburg, or Swing-Too-Low in Tokio, and if the freedom of field and forest and marsh is only one of them, it's a stirring symbol of all.

Wildlife and Fishery Resources in Wartime

(Continued from page 9)



The Service supplied samples of numerous furs for use in determining their frost-resistant qualities.

tities for lend-lease or military use; to determine the seasons of capture of various species in order that net-manufacturing machines may be more efficiently utilized for making camouflage nets; to prepare price data for determining ceilings on fishery products; to learn the needs of the fishery industry for war-risk insurance; to advise on the position fishery products should take in the stock of reserve foods to be stored in Puerto Rico and Alaska in the event of curtailed transportation; and to compile statistics on the production of sea foods in waters of various countries in the theatres of combat. This last, at the request of the Board of Economic Warfare, may enable the military to find local fish supplies abroad for our expeditionary forces and so allow more space for arms in ships. So, also, more may be left at home for domestic consumption.

The Service continued its protection of the fisheries of Alaska, which yield products having an average annual value of more than $45,000,000, about nine-tenths of which is in canned salmon. Increased intensity of fishing is considered inevitable under wartime conditions, and greater vigilance has thus been deemed necessary on the part of the law-enforcement officers and biological investigators to prevent impairment of future fishery harvests through inadequate spawning.

The production of fish and eggs at the Federal fish hatcheries was maintained at approximately the same level as in the preceding year. The necessity for more economical operations compelled a revision of the program with the object of closing some of the hatcheries as well as deferring all new hatchery developments or expansion of existing units. Likewise distribution and planting practices were modified to meet new conditions. Attention was given to stocking farm ponds for the production of food, and to planting game fishes in more accessible waters so that urban populations may enjoy angling recreation with a minimum of travel.

Wartime Wildlife Management

Control of predators and rodents that are limiting factors on food production also took on increasing importance when war began. Livestock, poultry, and agricultural industries were protected by the elimination of 123,667 predatory animals, by controlling injurious rodents on 20,966,606 acres of infested farm and range lands, and by destroying rats in town and country, thereby saving large quantities of the Nation's wool, fats, lanolin, food and feed resources for military and civilian needs and preventing the spread of animal-borne diseases transmissible to man and domestic livestock.

Fur became a concern of the armed forces facing the task of waging war in cold climates, and the Service rendered assistance illustrated by the appointment of its outstanding fur expert as a specialized consultant of the Cold Climate Clothing Section of the Quartermaster Corps.

The Navy Department called upon the Service through its Division of Land Acquisition to appraise lands for war purposes in the State of Washington, and later requests for land appraisals and cadastral surveys in many parts of the United States so increased that at the close of the year the entire field staff of this division was engaged in appraising and surveying lands for the Navy Department. Its Washington staff was also engaged for the most part in preparing reports and maps submitted from the field on the areas appraised and surveyed.

In other ways also the Service applied its activities to the fighting needs of the Nation.

Projects not directly related to the war were drastically curtailed, but without discontinuing conservation programs that must not be abandoned. The extensive habitat-improvement and other development work accomplished during recent years on national wildlife-refuge lands, for example, together with the excellent water conditions prevailing on most of the refuges last spring, demonstrated the value of these refuges in this period of national emergency in greatly increased wildlife production. All forms of wildlife occurred on the refuges in greater numbers than ever before. Fur animals increased to a point where they made a substantial contribution to the war in providing furs for outfitting troops for military duty in northern climates. Wherever feasible without adverse effect on the wildlife, grazing by domestic livestock, hay harvesting, agricultural crop production, and other economic uses of refuge lands were permitted, thus making many thousand acres available for the production of food. Almost 1,000,000 acres of national wildlife-refuge lands were turned over to the War and Navy Departments for military purposes.

In wartime as well as in peace the Nation's natural resources must be safeguarded, and the Fish and Wildlife Service is one of those agencies upon which the responsibility rests

to see that no avoidable damage is suffered on the home front. Its efforts have thus been exerted to make every possible contribution to the war but at the same time to provide security for the fish and wildlife resources during the struggle and for the peace to come—through every means and every effort that cannot be exerted directly in fighting.

Throughout the year the Service has been conscious of the importance of outdoor recreation to the citizens of a nation under the stress of war, and it has done everything possible to continue its efforts on behalf of those resources that are important to sportsmen and others who seek relaxation in the outdoors. Despite time devoted to war activities, increased numbers of persons sought food and relaxation by hunting waterfowl. This was indicated by the sale of nearly 1,400,000 migratory-bird hunting stamps, compared with 1,260,810 sold last year. Enforcement of the Federal laws and regulations protecting wildlife continued effective, and excellent cooperation in this work was given by an appreciative public and the State game departments.

Importance of Fish and Wildlife Research

All the year's activities again emphasized the importance of the Service's fact-finding projects—fish and wildlife research, including field and laboratory investigations and experiments and the collection and compilation of statistical data. Wartime shortages of materials used in rodent control required intensification of studies of substitutes available from domestic sources. Plans for the best utilization of food resources were dependent on reliable data, and the development of new areas from which fishes can be taken required explorations. Such regulatory work as that of setting seasons for the hunting of migratory birds, as in the past, seemed feasible only with the knowledge based on year-round investigations—studies that during this past year indicated the desirability of relaxing restrictions and thus, of course, demonstrated the success of the restoration program.

The research and conservation policies of the Department in managament of the national migratory game-bird resources have, in fact, been fully justified by consistent increases under a sound utilization program during recent years. A survey inventory of big-game animals showed improvement in the status of this important food and recreational resource. Development of new methods for the control of destructive predatory animals, rodents, and birds assumed greatly increased importance in the war requirements for meat, cereals, fruits, and other food products because of the cutting off of supplies required for the preparation of standard materials heretofore used. Intensive work was concentrated on this requirement with promising results. Work on fur and fur fibers was directed vigorously to meet warm-clothing requirements of military and civilian agencies through new and improved manufacturing methods in utilizing pelts, fur, hairs, and waste materials. Increased fur-animal production was aided by presenting improved feeding and breeding practices and methods for the prevention and control of diseases. Thus despite demands for discontinuing many research projects during the war, it was the duty of the Service to emphasize the basic importance of continuing its scientific investigations.

Keeping the Public Informed

Though necessarily reduced, activities were continued to keep the public and particularly conservationists informed regarding the needs in safeguarding the fish and wildlife resources. With a curtailment of programs not directly related to the war, it was realized that prevention of raids on the resources under false pretexts become more important than before and require a vigilance on the part of conservationists that can be maintained only through adequate information programs. One of the most promising developments in the field of wildlife conservation in recent years has been the organization and growth of the Outdoor Writers Association of America and the increase of outdoor columns in the daily press, supplementing the contributions of outdoor periodicals and other agencies to conservation education. Thus, for the sake of maintaining conservation vigilance and also of meeting the needs of those who serve the information requirements of the public, it seemed essential to maintain the Service's basic responsibility for disseminating information though the output was drastically curtailed.

In one sense such publicity on the outdoors has seemed to be a distinct contribution to the Nation at war, for men and women whose time in the outdoors is limited, whose access to the tonic benefits of recreation in the open is cut off, may get some of their needed relaxation in reading, or in hearing radio broadcasts that bring the outdoors indoors. Such news items and broadcasts may also in some measure encourage outdoor interests among the general public, and it seems apparent that, like the British people, the Americans will find themselves in need of such relief from the stresses and strains of carrying on a difficult war.

In another sense, conservation publicity serves a national need in preventing the spread of ideas whose folly can be revealed to the public merely by a word of caution. Considerable display was given by the American press, for example, to a London report than "sparrows, starlings, crows, larks, curlews, and even swans are helping to feed Britain at war." Fortunately this publicity was followed promptly by this Service's widely read comment that, although wildlife has emergency food values, Americans will make a grave mistake if they try at present to include song and game birds in their wartime larder. It has been demonstrated that the song birds will make a much better contribution to the food-for-freedom cause by making war on the insect pests of crops. Even game, which becomes a part of the Nation's food supply and is estimated to replace annually enough meat to feed an army of 5,000,000 for 77 days, affords recreation that Americans consider even more important than the meat obtained from its pursuit. Yet the general public cannot be constantly aware of these relationships; it must be kept informed.

Americans have been waging an uphill, though successful, fight to restore their wildlife populations after disastrous exploitation. Game laws have been as liberal as the game could stand. Better management can increase the surpluses, and even at present there is in some areas a surplus of deer, elk, and other animals that might be more wisely used to the Nation's wartime advantage. Yet selfish interests may—without discrimination—be ready to use war conditions as a pretext for making disastrous inroads on this resource. If it ever becomes necessary, Americans can fall back on their wildlife meat supply, although it would not last long. Anyone advocating this at present, however, except for species that are locally overabundant, is either misguided or else is thinking more about his own privileges than about the needs of the Nation. A most effective way to combat the wartime spread of such proposals is through making the facts and actual relationships known.

Numerous fishery biological investigations and pollution studies also were carried on, and investigational activities were concen-

(Continued on page 23)



Photo by C. Carr, U. S. Fish & Wildlife Service.

Rat damage to ground bone fertilizer.

Victory Gardens and Ration Points

(Continued from page 5)

Dormont and Greentree (Allegheny County)	223
Oil City	217
Pittsburgh (Pleasant Hills District)	208
Wesleyville	207
Sellersville	202
Indiana	180
Evans City	178
Southmont (Cambria County)	176
Brookville	173
Mercer	169
Linesville	165
Lehighton	147
New Castle	143
Bridgeville (Allegheny County)	140
Punxsutawney	139
Camp Hill	137
Cambridge Springs	135
Youngwood	133
Verona (Allegheny County)	130
Monongahela	128
Beaver	124
Westview, Perrysville and North Hills (Allegheny County)	124
Brookline (Pittsburgh)	121
Greensburg	116
Jersey Shore	114
Sharpsville	114
Leeper	110
Quakertown	110
Ferndale (Cambria County)	109
Shippenville	109
Endeavor	108
Grove City	108
North Warren	107
Baden	104
Colver	102
Galeton	101
Irwin	101



Photo by W. L. R. Drake.

Thousands of rabbits are trapped from gardens every year and released in open hunting territory removed from localities where danger is imminent.

City Water Sheds, parks, institutional grounds and other protected areas producing the most rabbits were as follows:

CITY WATER SHEDS, PARKS, INSTITUTIONAL GROUNDS AND OTHER AREAS

NAME OF AREA	No. Rabbits	No. Acres *
Auxiliary Refuge No. 99 (Maiden Creek Watershed—Reading)	869	1000 trapped
Rolling Rock Club, Westmoreland County	596	
Pymatuning Area, Mercer County	436	
Loyalsock State Game Farm, Montoursville	344	400
Jordan State Game Farm, Harlansburg	330	324
South Park, Allegheny County	285	
Frick Park, Pittsburgh	230	
Pymatuning Park, Crawford County	221	
Eastern Penitentiary Reservation, Montgomery County	220	1591
Game Refuge No. 510, Crawford County	217	
Treesdale Farms, Mars, Butler County	195	
Allegheny County Home, Oakdale	184	
Dutch Hill Sportsmen's Refuge, Schuylkill County	178	450
State Epileptic Colony, Selinsgrove	137	
Warner Estate, Crawford County	116	
Jerome Sportsmen's Propagating Area, Jerome, Somerset County	111	
Conneaut Lake Area, Crawford County	106	
Cramer Sportsmen's Club Property, Cramer, Indiana County	104	

Game propagation areas which supplied the most rabbits were as follows:

STATE GAME PROPAGATION AREAS

A-3 (Hanover Water Company Property)	262	825
A-8 (Northampton County)	226	165
A-9 (Berks County Prison Farm)	266	700
A-10 (State Hospital for Crippled Children—Lancaster Co.)	133	235
A-11 (Bucks County)	112	125
A-13 (Northampton County)	290	460
A-15 (Northampton County)	122	105
B-20 (Luzerne County)	110	200
E-1 (Rockview State Penitentiary)	135	(Limited area trapped)
F-10 (Greenville Water Company—Mercer County)	217	208
G-1 (Allegheny County)	266	201

* Where acreage is not given it was either not known or we did not know how many acres of the entire tract were trapped.

In addition to all of the trapping efforts, based upon the old adage that "an ounce of prevention is worth a pound of cure," the Game Commission considered it necessary to prepare information for victory gardeners concerning preventative measures or the use of repellents to keep the rabbits from damaging crops. To this end after consultation with the State Department of Agriculture the following circular was prepared for handing or mailing to persons having rabbit damage.

"CIRCULAR PERTAINING TO PREVENTION OF RABBIT DAMAGE TO GARDEN CROPS

I. RABBIT REPELLENTS

Since live trapping of rabbits during the summer months is very difficult, the Pennsylvania Game Commission, after consulting with the State Department of Agriculture, recommends certain repellents to vegetable growers. One commonly reported to be very effective is powdered lime sprinkled lightly on the plants when they are damp. The sprinkling of dusting sulphur liberally over the plants is also effective. Others include (1) wood ashes and red pepper mixed and sprinkled on the plants; (2) three ounces of epsom salts to one gallon of water; or (3) one teaspoonful of creolin or lysol to one gallon of water. If properly used, none of these is injurious to the plants but rabbits do not like them.

Regular commercial sprays when properly used serve a dual purpose. Among the commercial insecticides, "Blackleaf Forty" (a tobacco extract) used in the proportion of two teaspoonfuls to one gallon of soapy water is effective in controlling many of the common garden insect pests, and is also a satisfactory repellent to rabbits.

The frequency with which the above repellents must be used depends upon the amount of rainfall and the rate of plant growth.

Some people have had splendid success by stretching rope, heavy cord, binder twine, or similar material soaked in creosote around vegetable beds a few inches from the ground. Others have used empty soft drink, catsup, or other bottles on their vegetable beds. These are placed in the ground, neck down, at few-feet intervals over the vegetable beds and apparently the reflection of light from the bottles scares the rabbits away.

Another device consists of stretching heavy string or cord around the vegetable bed about eighteen to twenty inches above the ground, depending upon the kind of crops grown, and attaching thereto white cloth streamers about a foot apart. These streamers should not quite reach to the ground, and when the wind blows they will be even more effective. Moth balls scattered around the edge of the garden or vegetable bed have been successful in many instances in keeping rabbits, as well as deer, from destroying crops. There are, no doubt, other simple and effective repellents or homemade devices which are not expensive and produce the desired results.

II. RABBIT TRAPPING AND TRANSFER

In case you are not successful in preventing rabbit damage with a repellent and under the legal provisions of the Game Laws you would not be entitled to kill rabbits and dispose of them, there is the possibility that your local District Game Protector may be able to appoint a rabbit trapping agent to help trap and remove under his supervision the rabbits from your neighborhood. He may deem it advisable to assign some traps to you for this trapping work, with the understanding that the trapped rabbits would be released under his supervision elsewhere in his district well removed from garden areas, where there is no possible chance for damage to crops.

In order to prevent a recurrence of the rabbit damage problem in 1944, it is suggested that you arrange with your local Game Protector

to trap and remove rabbits from your section this coming winter, when they can be captured much more readily.

We assure you that the Game Commission is endeavoring to cooperate to the fullest extent with the Victory Garden Chairman of the State Council of Defense, with local Councils of Defense throughout Pennsylvania, and with vegetable growers generally in preventing rabbit damage, especially during the war emergency, when food of all kinds is so necessary to supplement family supplies. We believe that this is a vital contribution to the war effort, and that rabbits trapped and released where no material harm can be done will also benefit those who are in need of outdoor recreation this coming hunting season, and will help solve the meat rationing problem in many homes.

III. KILLING RABBITS DESTROYING CROPS

Under the provisions of Section 724 of the Act of June 3, 1937, P. L. 1225, (the Game Code) any person *actually residing upon and cultivating,* as a means of gaining a livelihood, any lands for general crop purposes, commercial trucking, fruit orchards or nurseries being regularly maintained for commercial purposes may kill wild rabbits, at any time, found materially destroying such property. Similar permission is granted to employes of land-owners and tenants who are hired on a monthly or annual basis. Rabbits may also be killed anywhere on the property under the control of these persons immediately following destruction, except that areas more than 150 yards from occupied buildings must be open to public hunting during the regular season.

Immediately after such killings, it is required that the entrails be removed, the carcass transferred to a place of safe keeping, to be turned over to any Game Protector upon demand.

Satisfactory evidence that material damage has been done within a period of 15 days may be required by a representative of the Game Commission for all animals killed as a protection to crops, etc., and must be reported to the nearest Game Protector or the Commission Office at Harrisburg within 12 hours following the killing.

This Section *prohibits the consumption of any carcass* or the use of poisons, explosives, snares or steel traps.

Most cities, boroughs and towns have ordnances which prohibit the discharge of firearms within corporate limits, and before any attempt is made to kill animals in such areas the advice and guidance of the local Police Department should be sought.

As you will notice, this circular also gives information regarding rabbit trapping and cites the provisions of law regarding the killing of rabbits that may be destroying property. Copies of these circulars were mailed to the field officers of the Game Commission, and hundreds were mailed in answer to letters making complaint about rabbit damage or requesting information along this line. One hundred or more were either handed to people calling at the Harrisburg office or mailed to people telephoning from Harrisburg or vicinity and, in addition, this information was broadcast throughout the State in news items and over the radio. Every effort was made to place the information in the hands of as many victory gardeners as possible.

The use of these repellents does not constitute a cure-all, nor do all of them work in every instance. Some of them have proven very effective while others have not produced good results in many cases. Some of the commercial powders and sprays for insects are also good rabbit repellents, but quite naturally we must refrain from mentioning specific commercial products. In addition to those listed we have found dried blood to be very effective when used either as a dust applied directly to the plants when they are moist or covered with dew, using a 5% soybean flour as a sticker. When used as a spray it should be diluted with water and ½ of 1% of soybean flour added to the mixture and applied directly to the plants. Other stickers such as penetrol, mineral oil, etc., may be used. Experiments

(Continued on page 32)



Photo by W. L. R. Drake.

A typical community garden site on the edge of a large Federal housing project. Note how well kept the plots are.

Farm-Game Program Yields Big Dividends

(Continued from page 13)



Photo by Clarence Heppe.

When the day was over this group of southeastern Pennsylvania hunters had bagged 21 pieces of game last season, including 9 grouse, 4 rabbits, 6 squirrels, 1 wild turkey, and 1 raccoon.

A resume of the six and one-half year period shows that a total of $172,824.41 has been spent on the Cooperative Farm-Game Program. This amount is divided into the following items:

Securing agreements and mapping project areas—$22,674.86, or 13.1% of the total amount expended.

Establishment of refuges, safety zones, etc.—$44,468.63, or 25.7% of the total amount.

Protection—$43,777.32, or 25.3% of the total amount.

Development and maintenance—$61,903.60, or 35.9% of the total amount.

Reduced to figures showing the average cost figured on pre-project acre per year, we have the following figures:

Securing leases and mapping 2.3c
Establishment 4.6c
Protection or law enforcement 6.3c
Development and maintenance 8.8c,

or a total cost of 22c per project acre annually.

The above figure compares very favorably with the cost of managing the State's own

PENNSYLVANIA GAME COMMISSION
DIVISION OF GAME LAND MANAGEMENT
GAME KILLED ON FARM-GAME PROJECTS—1938 to 1942 inclusive

Game Kill 1928	Game Kill 1939	Game Kill 1940	Game Kill 1941	Species	Game Kill 1942	Area Per Head Game Taken 1942	Weight (Pounds)	Value $.40 Per Lb.
48,350	44,780	47,167	50,417	Rabbits	56,862	1 per 1.6 Acres	99,509	$39,803.60
15,770	10,189	15,177	18,415	Pheasants	23,579	1 per 6.7 Acres	64,842	25,936.80
152	499	885	987	Grouse	523	1 per 300 Acres	697	278.80
859	1,404	2,801	2,321	Quail	1,790	1 per 90 Acres	671	268.40
7,857	7,148	17,636	12,688	Squirrels	11,692	1 per 13.5 Acres	11,692	4,676.80
------	129	261	526	Raccoons	277	1 per 570 Acres	2,770	1,108.00
40	41	183	4	Deer	13	1 per 12,178 Acres	1,495	598.00
73,034	64,190	84,110	85,358	Totals	94,736	1 per 1⅔ Acres	181,676	$72,670.40

COOPERATIVE FARM-GAME PROJECTS
Functional Classification of Expenditures Incurred Each Year June 1, 1936 to December 31, 1942

Functional Classifications	Fiscal Year June 1 to May 31							Total For Period of About 6½ Years	Percent of Total	Average Cost Per Project Acre Per Year
	1936-37	1937-38	1938-39	1939-40	1940-41	1941-42	7 Mos. 1942-43			
Securing agreements and mapping project areas	3,812 As. $3,150.06 $.83 per A.	31,189 As. $3,895.50 $.12 per A.	58,837 As. $6,520.12 $.11 per A.	41,714 As. $3,250.72 $.08 per A.	15,975 As. $2,542.98 $.16 per A.	------ As. $843.19	6,790 As. $2,472.29 $.36 per A.	$22,674.86	13.1	*2.3¢
Establishment: Setting up Refuges, Zones, etc.	1,900 As. $2,726.26 $1.43 per A.	29,699 As. $19,816.23 $.67 per A.	42,266 As. $12,347.94 $.29 per A.	61,727 As. $7,387.80 $.12 per A.	15,975 As. $1,947.05 $.12 per A.	None	6,790 As. $243.35 $.04 per A.	$44,468.63	25.7	*4.6¢
Protection: Largely Law Enforcement	1,900 As. $149.50 $.08 per A.	31,599 As. $4,670.66 $.15 per A.	73,825 As. $8,762.27 $.12 per A.	135,552 As. $11,902.39 $.09 per A.	151,527 As. $5,993.86 $.04 per A.	147,584 As. $6,764.67 $.05 per A.	158,317 As. $5,533.97 $.04 per A.	$43,777.32	25.3	6.3¢
Development and Maintenance	1,900 As. $610.97 $.32 per A.	31,599 As. $3,829.49 $.12 per A.	73,825 As. $14,973.46 $.20 per A.	135,552 As. $19,356.26 $.14 per A.	151,527 As. $10,198.53 $.07 per A.	147,584 As. $7,889.76 $.05 per A.	158,317 As. - $5,045.13† $.03 per A.	†$61,903.60	†35.9	†8.8¢
Totals	$6,636.79 $3.50 per A.	$32,211.88 $1.02 per A.	$42,603.79 $.58 per A.	$41,897.17 $.31 per A.	$20,682.42 $.14 per A.	$15,497.62 $.11 per A.	$13,294.74 $.08 per A.	$172,824.41	100	22.0¢

† Incomplete—Will be higher by May 31, 1943.
* Of the 158,317 acres leased to date, approximately 37,000 acres were for 10 years, and the remainder for 5 years.

game lands, now aggregating 728,000 acres, which has been averaging 35c per acre during the same period, and most of the State Game Lands are not suitable to farm game species. Nor do they ordinarily accommodate as many hunters per thousand acres.

By the end of the present fiscal year, the cost of Cooperative Farm-Game Projects covering the seven year period exclusive of headquarters administration, will be one dollar and ten cents per project acre, or an average of 16c per acre per year based on the present total of 158,317 acres. Even if no more acreage is added there will be an annual cost of at least 15c per acre, due to the necessary protection, maintenance, and increased development connected with the operation of the projects.

Special Wildlife Refuge Projects

Because of the fact that funds would not permit the extension of the Cooperative Farm-Game Program to all sections of the State, the Legislature in 1939 authorized the establishment of Special Wildlife Refuge Projects by regularly organized sportsmen's groups. This type is similar to the Cooperative Farm-Game Program except that projects are sponsored and set up entirely by the sportsmen's organizations who make the agreements with landowners. The Game Commission enters into the program only to the extent of furnishing agreement forms, educational leaflets and posters. This program has proved popular and is gradually expanding, with very little cost to the Commission.

Season	Acreage	Value	Ave. Value of Kill Per Acre
1938	73,825	$56,831.32	75.6¢
1939	131,467	47,717.60	36.3¢
1940	151,527	64,558.00	42.6¢
1941	147,584	63,819.00	43.2¢
1942	158,317	72,670.40	45.9¢
Total	662,720	$304,596.32	46.0¢

The Special Wildlife Program which in 1939 included 29 projects, with 17,500 acres, now numbers 94 projects containing 28,753 acres. The cost to the Game Commission to date on these projects has been only $1,076.10, or 3¾c per acre. At the same time, there is on hand nearly 40,000 posters which means that there probably will be no additional cost to the Commission for the existing projects, or for additional ones which may be established during the next several years.

Wildlife and Fishery Resources in Wartime

(Continued from page 19)

trated on the migratory game birds, a resource of great recreational and esthetic value as well as of economic worth. The food value alone of the estimated annual bag of 15,000,000 ducks and geese is not less than $5,250,000 and when used as food the game releases its equivalent weight in domestic poultry and other meats.

The Service's minimum objective for a continental waterfowl population has been achieved, the inventory of January indicating that the stocks of ducks and geese has grown to about 100,000,000 birds, more than 3½ times the estimate for 1935.

Distribution and Migration Records

For reasons of economy and to limit the use of aluminum needed for war purposes, bird banding was drastically curtailed. Though practically no new permits were issued, and work with colonial species was largely suspended, cooperators reported the banding of 280,842 birds, of which 46,758 were ducks and geese. Returns and recoveries totaling 25,846 brought the grand total to more than 292,000. Distribution and migration data received from 225 observers added 44,340 records to the files. In addition 900 locality and 817 bibliographic references were compiled.

Wartime Use of Furs

To render maximum service toward insuring that our armed forces in cold climates shall be properly equipped with warm clothing, the fur resources program was reorganized, cooperative arrangements were entered into with the Quartermaster Corps and the War Production Board, and the Secretary of War appointed an official of the Service as fur consultant. The Service supplied samples of numerous furs for use in determining their frost-resistant qualities and testing their suitability for sleeping bags and certain types of clothing. At the request of war agencies, comparative tests of furs and fabrics were initiated in cooperation with the Bureaus of Home Economics and Animal Industry of the Department of Agriculture. The receipts from furs sold by the Service amounted to $2,466,308. These comprised furs taken on national wildlife refuges, $73,891.77; predatory animal pelts, $22,389.47; experimental and miscellaneous skins, $9,328.76; and fur seals and blue foxes, $2,360,698.

Cooperative Research

Fur-fiber investigations.—Continuing the study of factors contributing to desirable quality in pelts of fur animals, a preliminary analysis was made of inherited fur fiber characteristics associated with woolliness in domestic rabbits. Studies of luster in Karakul sheep pelts were furthered by construction of new apparatus, and information on growth characteristics of Persion lamb curls was assembled from available foreign literature, contributing to investigations conducted in cooperation with the Bureau of Animal Industry. Toward the end of the year the entire program was so revised as to handle new projects having direct bearing on the war. These include studies of the suitability of furs and fur fibers for war use, and the utilization of waste fur and fur scraps.

National Wildlife Refuge Program Land Acquisition

The program of land acquisition for national wildlife refuges was greatly curtailed by economic conditions brought on by the war, but the development of refuges progressed considerably, despite great curtailment in the use of CCC, WPA, and NYA labor. The WPA furnished 5747 man-months of employment, of which 1173 were used on road improvements essential in the national emergency. The projects were operated principally in localities where relief labor was not required in connection with the war program.

The number of national wildlife refuges now administered by the Service is 272 (17,643,915 acres) of which 254 (9,592,713 acres) are in the United States and 18 (8,051,202 acres) in Alaska, Hawaii, and Puerto Rico.

Federal Aid in Wildlife Restoration

The benefits of 4 years' operation of the Federal aid in wildlife restoration program under the Pittman-Robertson Act are becoming increasingly apparent. Projects approved are being utilized by State game departments to gather information on scientific and administrative problems for which State

(Continued on page 31)

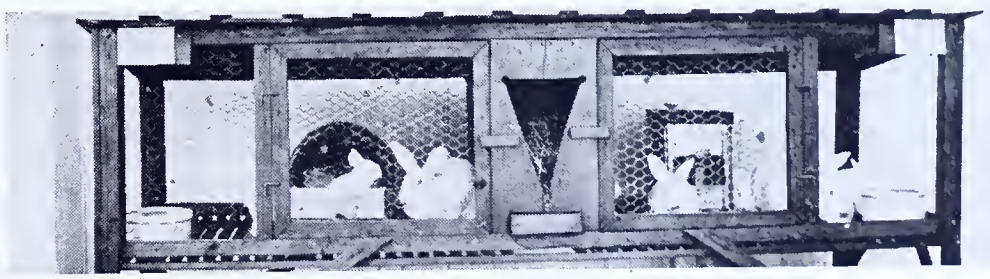


Photo U. S. Fish & Wildlife Service.

An inexpensive two-compartment rabbit hutch. U. S. Rabbit Experiment Station, Fontana, California.

★ ★ ★ CURRENT TOPICS ★ ★ ★



Photo by John Lohmann.

These dogs, left to run at large, took up their abode in the forest in Lehman Twp., Pike County. They lived in an old deserted barn and killed deer and small game. The half savage beasts were later rounded up by Game Protector Lohmann and quickly dispatched.



Photo by John Lohmann.

Donald Raitt, son of Pike County Ranger Clyde Raitt of Edgemere, Pa., and part of his catch of foxes last winter. Donald caught thirty foxes and two horned owls, one of which shows in the photo. These predators all were caught in the vicinity of the Delaware-Porter Twp. line within an approximate area of one square mile of the Ranger's Headquarters.

Ammunition for Hunters

There will be ammunition for the hunters who can show a need for it this year, Government officials said in an AP news release out of Washington on June 24, but the gasoline shortage may yet save many a bounding buck.

Officials who said plans were under way to provide ammunition for civilian sportsmen, and to "see that it goes to those who need it," declined to say how distribution would be controlled. It was indicated, however, that each hunter's present supplies would be considered in fixing his allotment.

Total stocks in the hands of sportsmen are believed to be fairly large, but distributed so unevenly that some are stocked for the season while others haven't a thing.

With many dealers' shelves already bare, the War Production Board stepped in nearly two months ago to protect the remaining supplies on the market with an order sharply limiting sales and requiring authorizations to make purchases.

WPB said production of shotgun shells and other ammunition useful to sportsmen was "huge," with steel being substituted for brass and copper, but reported that almost all of it had to be channeled to the military services.

The limitation order set up quotas—25 shotgun shells each quarter, for instance—for "essential civilian users," including defense plant guards, other law enforcement officers, farmers and ranchers, who get authorizations automatically.

All others seeking authorizations are required to show essential need, and WPB hasn't considered recreational hunting in that category.

Meanwhile, Ira N. Gabrielson, the wildlife division director, said sportsmen who can solve the gasoline as well as the ammunition problem can expect good hunting when the season rolls around.

"Generally speaking," he told an interviewer, "the game situation is good. With exceptions in some scattered places, the game population the country over looks as good this year—if not better—than last year."

TO HELP PREVENT SABOTAGE

Representatives of the Department of Forest and Waters, Fish Commission and Game Commission recently worked out a unified plan with Col. C. M. Wilhelm, State Police Commissioner, to aid in the enforcement of the Sabotage Prevention Act, which was approved by the Governor on May 26, 1943. This amendment added foresters, forest rangers, fish wardens and game protectors to those previously empowered to enforce the provisions of this act.

The authority granted under this act will add more than a 1000 active enforcement officers, in addition to the members of the State Police, constables and peace officers who were previously charged with the enforcement of the 1942 Sabotage Prevention Act.

The addition of representatives of the Department of Forest and Waters, Game and Fish Commissions, means that every nook and corner in the Commonwealth will be carefully scrutinized for violations of the Sabotage Prevention Act, and will materially assist in detecting any attempts to interfere with the successful prosecution of the war.

LAND-ARMY RECRUITS WARNED OF DANGERS

Collier's Article Says Caution and More Caution Should be the Watchword of Those Going from Cities to Farms to Help Harvest Vitally-Needed Crops

When eager but unskilled recruits--stenographers, file clerks, schoolteachers, students, housewives—of the projected 3,500,000 land-army turn to the nation's farms this summer to help reap the harvest, caution and more caution should guide their every move.

An article in the current issue of *Collier's Weekly* tells exactly why, and lists the hazards that lurk at every turn—dangers which cause some 18,500 farmers and farm helpers to lose their lives accidentally every year.

First of all, *Collier's* advises the novice to condition muscles with light workouts the first few days. Be a respecter of the sun because sunburn is painful, but sunstroke is worse.

Drink plenty of cool water with a little salt added to avoid heat exhaustion.

For those who'll be working on such machinery as tractors, corn pickers, mowers, harrows and threshing machines, the admonition to be extra careful of moving treads, cogs, fans and belts is virtually gospel.

Never stand up or carry a passenger in a tractor, the article warns. Don't fool and don't show off because a tractor can rear up when hauling too heavy a load, can upset and roll when turned too sharply, and can buck when being cranked. So, while doing the latter, one should keep the thumb on the same side of the crank handle as the fingers.

Remember that a bull is about as peaceful as a loaded gun and never try to lead one without a staff through his nose ring.

"So bossy"—even if her name is Alice—is the proper conversational gambit when you're entering a cow's stall, and you always milk her from the right side, says the article which adds:

"Stay away from rams and boars. They have very little brother-of-man feeling."

Among the numerous other "don'ts" listed are:

Never approach a horse directly from the rear or bump into one, because they're highly temperamental and easily frightened. A gentle "howdy" will be of invaluable assistance in entering a horse's stall which always should be done from the left.

Never carry loose matches in your pockets and never strike one in a barn where lanterns should always be hung on a peg so they can't be upset and start fires which damage farms to the extent of about $225,000,000 and take the lives of some 3,500 farmhands annually.

And, above all, beware of such annoying things as poison ivy, oak and sumac.

—*Colliers*

NOTES FROM THE FIELD

"While fishing on Blue Eye Creek I saw a pair of Wood Ducks on a beaver dam. A beaver was swimming around within ten feet of them."—Game Protector George H. Burdick, Group 4, Division "F."

"While patrolling in Bell Township, Jefferson County, recently, I noticed a cat along a fence some distance from the highway. I also noticed that it was about to make a spring for something. Thinking it was a bird I started across the field intending to kill the cat. When I got about 40 yards from it, it made a spring and caught something which, when I got nearer, I noticed was a full grown weasel. They had quite a tussel for about a half minute, then the cat started across the field carrying the weasel. I noticed that it had a bad cut on its leg and was bleeding. Evidently the weasel got its teeth into the cat's leg when the cat pounced upon it. I put my revolver in the holster after I saw what a good deed the cat had done."—Game Protector William A. Hodge, District 14, Division "E."

An analysis of Game Protector's reports indicate that wild turkeys showed up very well this Spring, and that the stocked birds particularly are far superior and much wilder than any others thus far released.

The loss of a nest or two did not discourage the bald eagles at the Pymatuning Refuge from rebuilding. Game Protector Burt Oudette states that they have rebuilt again at the Refuge despite the fact that their nest was blown down by heavy winds in the past two years.

"Received a call from Deputy Freshcorn that foxes were taking his chickens. I went to Mr. Freshcorn's farm and located a red fox den and dug it out. This den had only three young in it. Scattered about the outside were the remains of ringneck hens and roosters, rabbits, crows, chipmunks, moles, field mice and also some of Mr. Freshcorn's chickens. There were a couple of freshly killed moles lying outside, apparently just brought in by the old fox. Deputy Mawyer and one of Mr. Freshcorn's sons, who were along, walked up over the hill from where we were digging and saw the old fox in a field nearby."—Game Protector George W. Miller, District 14, Division "F."

"My five year old son, Billy, after seeing a young fawn and thinking it was the cutest thing, said 'Dad, how old will it be before it has anchors on its head?' "—Game Protector W. T. Campbell, District 10, Division "F."

(Continued on page 27)



Mallard duck on nest; nest and eggs. Photos by Arthur Swoger, taken at the Pymatuning Waterfowl Sanctuary.

★ ★ ★ CURRENT TOPICS ★ ★ ★

Amphibian Orchestra Plays Pipes of Pan in Spring Ponds and Flooded Marshes







Photos Courtesy Ben East in the Grand Rapids (Michigan) Press.

WAITS FOR WARM RAIN—

The sweet, trilling song of the tree-toad, commonly regarded as a harbinger of rain, is familiar in summer. But not many know that in warm, wet nights of mid-June the whole tree-toad clan gathers in ponds and marshes where from dusk to dawn they set the rainy darkness ringing with the ecstasy of their courtship music, their throats inflated and throbbing like drumheads.

SINGS ONLY AT NIGHT—

Even Sir Ugliness, the common toad, gives voice to his springtime ardor in trilling, birdlike song. But he sings only under the cover of darkness, as if ashamed of his grotesque appearance, and his singing pouch does not begin to match for size that of the tiny swamp treetoad.

IT NEVER BURSTS—

One of the smallest of the amphibian singers of early spring is the swamp treetoad, no more than an inch long as he sits hunched in the water in singing pose. This picture shows him about four times actual size. But his shrill voice is loud, carrying a full mile across the fields on a still evening. With each piping note he blows the skin of his throat into a balloonlike singing pouch that forever threatens to burst but never does.

Shaughnessy Captian All-American Skeet, 1943

Sergeant Richard "D e a d - e y e - D i c k" Shaughnessy, U. S. Army Air Corps Gunnery School instructor, at the Laredo (Texas) Air Training Station, has been named Captain of the 1943 All-American Skeet team. This announcement has been made officially by Henry E. Ahlin, president of the National Skeet Shooting Association. Shaughnessy, who ran up an all-gauge average of .991 on 1475 registered targets in 1942, and who also led the All-American team with a 20-gauge average of .990 on 775 targets, was the Committee's unanimous choice.

Mrs. Potter Palmer III, who led the women in 1942 competition with all-gauge score of .970 on 1650 registered targets, was named Captain of the Women's team.

Here's a condensed version of a deer-shooting story, the truth of which is attested to by Wyoming Wildlife:

A Wyoming hunter shot at and downed a buck deer. He immediately attached the coupon from his license to the buck's antler's. As he started to dress the animal, it suddenly leaped to its feet and made off, with the hunter in hot pursuit. It hadn't gone far when another hunter sighted the animal and killed it.

The first hunter laid claim to the deer. The second hunter's righteous indignation turned to amazement when the other backed his claim by pointing out the tag and producing the license to which it had been attached.

"Mister," he said, "if you can tag 'em on the run, you're entitled to all you can get."

IWLA Urges Game Cropping

Some splendid resolutions were made at the 21st annual Convention of the Izaak Walton League of America this year. In essence they are namely, that the League oppose any advocacy to dispense with hunting and fishing for the duration and strongly urges the orderly cropping of game on a sustained yield basis by sportsman hunters; that because game represents a potential food supply of a quarter of a billion pounds of excellent meat, plus hides, feathers, fats and other products which can be gathered without interference with war production, to say nothing of the all important physical and moral conditioning gained in the pursuit of game, the League urged the War Production Board to release sufficient ammunition to harvest the annual crop; that in our planning for any post-war public works program that the following principle be adopted with respect to all municipal works and all public institutions involving federal or state participation or aid; namely, that unless and until a municipality or public institution having a water sewer system either has adequate sewage treatment facilities or bona fide plans for acquiring such facilities, it shall not be eligible for federal or state funds for any other purpose.

The pheasant take for last season in South Dakota probably exceeded three million birds, with an average of about 35 birds per hunter.

St. Regis Ejects Baby Hawks From 16th Floor Balcony Nest

The balcony empire of two pigeon hawks and their brood on a sixteenth-floor cornice of the St. Regis Hotel, Fifth Avenue and Fifty-fifth Street, came to an end recently, much to the delight of paying guests, who were beginning to get annoyed by the birds' dictatorial screaming, not to mention their preying on innocent pigeons.

For more than two weeks St. Regis guests and those of the Gotham Hotel, just across Fifth Avenue, had been watching with growing horror the merciless attacks of the slate-gray falcons on unsuspecting pigeons. From great heights a pigeon hawk would swoop down, clutch a pigeon in its ugly talons and carry the smaller bird off to a neighboring roof top, where dissection was carried on at leisure.

Then, with a choice tidbit in its hooked beak, the pigeon hawk would fly straight as an arrow to the St. Regis balcony, where two hungry baby pigeon hawks waited in a crude nest of twigs and pigeon feathers, set in what had been intended as the socket of a flag pole. The pigeon population was diminishing rapidly.

The hunger of the baby hawks seemed insatiable. When their gullets were not otherwise occupied, they emitted screams almost as horrifying as those of their parents. This went on from daybreak until dusk, the cries carrying easily across Fifth Avenue to the Gotham. Fortunately, the St. Regis suite nearest the nest is being redecorated, and there was no inhabitant there to complain.

Goaded beyond endurance, the St. Regis

management determined to end the nuisance, once and for all. At 10 o'clock yesterday morning the chief engineer, Fred Roulet, and two assistants, armed with brooms, stepped out onto the balcony and advanced toward the young pigeon hawks, whose shoebutton eyes gleamed evilly. From the sky plummeted the parents, with incredible swiftness.

As his assistants swung their brooms vigorously, Mr. Roulet scooped the baby hawks into a wooden box. There, in the nest, were bits of pigeon bones and another hawk egg, brown and about the size of a hen's egg. Then the three men retreated cautiously, slammed the French doors behind them and descended to the engine room to scrutinize their quarry.

To still the raucous voices, Mr. Roulet obtained bits of beef from a reluctant chef and fed the carnivorous birds until it seemed they would burst. This operation fascinated many of the guests who had come down for a look, and one observed that it seemed a waste of ration points.

As it turned out, it was a waste. Agents of the Society for the Prevention of Cruelty to Animals, who arrived to claim the birds, took them to the A. S. P. C. A. Shelter, Madison Avenue and Twenty-sixth Street, where they were destroyed. This apparently was satisfactory to the St. Regis management, while Erwin H. Schlicht, manager of the Gotham, when informed of the disposition, exclaimed happily, "Aha!"

The parent hawks, one of whom passed the afternoon flapping its wings over the vacant nest, have not been seen to molest a pigeon since Mr. Roulet's coup. Last night they perched together on a ledge several floors above the silent balcony.

New York Herald Tribune

FIELD NOTES

(Continued from page 25)

"At the present we are having considerable bear damage to sheep in this section. In one instance a bear killed four sheep in one night, only eating the lungs. This bear appears to have very peculiar habits. He is a real killer and is interested only in the lungs of the sheep. To date he has killed six sheep, all in two nights. I believe the bear was traveling through that section as there is no evidence to show that he makes his home in that area."—Game Protector Claude B. Kelsey, District 2, Division "E."

"We have been having considerable trouble with bears killing sheep and destroying beehives. They are also coming around houses and getting into the garbage. One man over in Bradford Township who lives in a trailer, went away for the evening and upon his return found that a bear had broken into his meat box and had crawled onto the top of the trailer, leaving claw marks and muddy tracks on the roof." —W. J. Carpenter, Game Protector, District E-1.

"Deputy Game Protector Walter Spokart told me of a tragedy of the wild. On May 24, 1943, while painting boundary line around Game Lands No. 64, he heard a thrashing in the brush and a faint bleating. He investigated and saw a large doe deer trying to stamp a large gray fox. The doe would jump at the fox, lashing out with its front feet, and the fox would elude the deer by jumping sideways. Deputy Spokart had no gun because he was burdened with a paint pot, brush, hammer, nails and signs. However, he did pick up a club and started after the fox which, in the general melee, came as close as ten feet from him. The fox saw him then and legged it off. The deer also, but as it went Spokart noticed for the first time a little spraddle-legged fawn that came out of the brush and chased after its mother. Deputy Spokart investigated further and found the dead body of another little fawn containing tooth marks of the fox He continued on with his work and was crossing a rocky place on the line when he saw a rattlesnake, the largest he ever saw, stretched out on a rock. He picked up another stick and make a pass at the rattler but the stick broke and the snake slid between the rocks and disappeared from view. Summing up from a conservation standpoint, it was a hectic day for Protector Spokart."—W. W. Ohlmann, Game Protector, District E-4.

"On May 11 a group of sportsmen from Ellwood City Rod and Gun Club and my-

(Continued on page 28)



Photos by Francis Rogers.

An opossum struck by a car in Albion recently and injured, though not killed. Mr. Rogers photographed it and shortly afterwards it died. There were eleven small 'possums very tightly attached to the mother even after death. He removed them and tried to raise them, but they lived only three days.

★ ★ ★ CURRENT TOPICS ★ ★ ★



Photo by Wm. J. Scully.

Mr. Scully, who took this photo about 20 feet from his camp in Potter County, said the deer were sure hungry last winter when snow covered the ground. They are eating corn furnished by G. D. Walker of Conrad.

FIELD NOTES

(Continued from Page 27)

self went to the Sharp Fullerton Farm in North Beaver Township to dig out a red fox den. We got seven pups but the old one was not in the hole.

"What interested me was the remains around and in the den: 11 rabbits, 6 chickens, 2 ducks, 3 ringneck hens, 6 rats, 3 muskrats. The muskrats were something new to me. This is the first time I ever saw any part of a muskrat around a den. It also showed that the foxes will catch numerous domestic rats."—Frank L. Coen, District F-12.

"I observed several coveys of young grouse this spring, on May 19. I found where another mother grouse and four little ones had apparently been killed on the highway by a car. From the tracks on the road I would say that the same car had killed all five of the birds. I could not locate any more young ones in the vicinity. It would seem that such killing as this could be avoided, and must have been caused by carelessness or was deliberate."—Maynard R. Miller, G. P., District B-3.

A revised Indiana law covering the issuance of free hunting and fishing permits to war veterans provides for the issuance of these permits *on an annual basis, instead of on a life basis,* as heretofore. The measure was enacted as a method of eliminating illegal use of permits and providing a means by which the number could be determined. A reasonable time will be given for veterans to obtain the new permits.

"During the months of January, February and March 4903 rabbits were live trapped in the parks, boroughs, cemeteries and nurseries. No doubt this will go a long way in many sections toward preventing damage to Victory Gardens.

"Relative to the appeal made last Fall to salvage deerskins. The Allegheny County Sportsmen turned over 223 skins all of which were forwarded by me to the proper destination."—Game Protector Ralph Liphart, District 2, Division "G."

IN MEMORIUM

Only the old timers, both among the sportsmen and the staff of the Commission, will recall William H. Merring, former Game Protector in Monroe and Pike Counties for over a period of 14 years. Yet, Bill was one of Monroe County's best known and highly respected citizens. It was a shock indeed to learn of his death on June 11, too late for us to pay tribute in that issue of GAME NEWS.

"A very unusual experience occurred to me recently while traveling along the Clarion River below Portland Mills. I had gone to this area after lunch, thinking I might find some sign of a youngster drowned at Johnsonburg a few days previous during high water. As I was traveling along the river bank checking the piles of debris, I came to a fresh water swamp and immediately saw bear tracks. In fact the swamp seemed full of them. Working in closer I finally made out a mother bear and her three cubs feeding on skunk cabbage and other succulent swamp growth. The cubs were from last year's litter and probably weighed around 50 lbs. each. I watched them for some 15 minutes when the mother sensed something wrong and led them quietly away up the rocky mountain side.

"I proceeded down the river and about 2 hours later, on my way back, I again approached the same swamp. This time I was traveling along an old railroad grade, some distance back from the river. Again I saw bears but this time it was a different mother with three cubs from this year's litter. I doubt if the little fellows weighed much more than 5 lbs. each and they had great difficulty in traveling with the mother although she was all patience and would go about 10 yards, then sit down on her haunches exactly like a big dog and wait for the little ones to catch up. It seemed every tree or shrub they came to the cubs would attempt to climb, getting up maybe a foot or so then dropping off. Neither mother bear was large, weighing about 175 lbs., but their fur was in excellent condition —very shiny and very black.

Eight bears in one small swamp. Never before have I seen such a concentration of bruins in one small area. No doubt the tender shoots of the swamp plants were the attraction. From personal observation this is the third mother bear, this Spring, that had three cubs each and at this rate our Elk County bear hunting will definitely be on the up grade."—Game Protector T. C. Carlson, District 5, Division "E."

ATTENTION!

Due to circumstances beyond our control many of our readers received their June and July copies of Game News very close together. We hope in the future to be able to hold more closely to our schedule so you will receive your magazine at the stated monthly intervals.



Photo by Geo. D. Bretz.

Twenty-five red foxes killed Friday, May 7, by farmers on the John Hosfeld farm in Lurgan Township, Franklin County, near the Cumberland County line. The farmers reported that a vixen was shot a short distance from where later 15 young foxes were found in a den. The other nine foxes were killed in a wooded section of the farm.

"I have found that crows can easily be trapped by making a nest in an open spot and placing a couple of eggs in it so they can be seen from above. Set and conceal traps well near the eggs.

"A pied-billed grebe flew into a store window in Cambridge Springs last week and broke its neck. The only explanation for the accident is that there was a very strong wind and perhaps the bird was tired."—Game Protector Elmer D. Simpson, Group 2, Division "F."

"The turkeys that were stocked in this section are the finest thus far. From my observations they became acclimated quicker and better and even though there was a scarcity of native birds through this section the ones we stocked managed, in most cases, to find native birds with which to take up with. They all stayed back in the mountainous sections where they were placed and now are very hard to distinguish from the native birds. They are very wild. The hens placed in my area No. 1 are also very fine birds and quite wild and hard to handle. They do not tame down as birds did other years after I was around them so much collecting eggs."—Game Protector Harold E. Russell, Group 4, District "D."

"I received a complaint that a farmer in Center Township had trouble with a raccoon stealing duck eggs from his barnyard. The farmer located the animal in a hollow apple tree in his orchard about 150 yards from his barn. I accompanied him to the farm and we caught the raccoon which proved to be a large female with three young, 1 male and 2 female, the young raccoon were about 3 days old."—Game Protector E. J. Turner, Group 2, Division "A."

"Have had my first complaint of grouse damage. An orchardist of Adams County reports grouse have fed on his apple buds so much during the past winter that a considerable number of his trees will only produce half of a crop. He stated that the

grouse fed entirely on the mountain sides of his trees, seldom touching the valley sides of the trees."—Game Protector George Bretz, District 7, Division "D."

"Recently Hon. John M. Phillips called and said he had purchased several five foot trees, seedlings, and nuts, which he would like to donate to our newly acquired State Game Land No. 203, Marshall Township, Allegheny County, and wanted to help plant them at a convenient time. Arrangements were made with Mr. Peter Krass, of Carnegie, one of our interested sportsmen, and four of his Boy Scouts, Hon. Phillips' chauffeur (better known to all as *John*), Mr. Phillips and I formed a caravan on May 8 and proceeded to go to the above mentioned destination where the following list of food producing trees and shrubs were planted. Two five foot black walnut, 10 five foot hickory trees, 250 mulberry seedlings, 1000 sprouted walnuts (black) and 300 hickorynuts. To make our trip more interesting it rained, and rained more; still Mr. Phillips stayed right on the job and the work was completed in fine shape. He was contacted several times since as to whether he felt any ill effects owing to the ducking, etc. No, was the answer, that such a little thing couldn't hurt his eighty-two year old body." —District Game Protector Ralph A. Liphart, Homestead.

"Heard a report of a family on the east side of the city who, when they found a skunk in their cellar, closed all the exits and put their dog after said skunk. The last report I heard still had them living with the neighbors.

"Last winter I heard several reports of raccoon hunters seeing an albino raccoon along Walnut Creek. The story sounded a bit off color to me, and I blamed it all on a white cat traveling the woods. A few days ago a poultry man along Walnut Creek began missing chickens. He set a trap and to his surprise caught an albino raccoon. Four chickens had been killed the same night. He killed the animal and turned it over to the nearest Game Protector. It weighed about 14 pounds and was pure white. Around the tail one could see faint "rings" of a darker shade. The eyes were pink. The carcass was offered to the Erie Museum, which gladly accepted the rare specimen, with permission from the Game Commission to have the specimen mounted and placed on exhibition."—Game Protector Clair W. Dinger, District 2, Division "F."



"Whee-e! That was close!!"

ATTENTION

In the published minutes of the Directors meeting of the Pennsylvania Federation of Sportsmen's Club one gains the impression that the Predator Committee, appointed by the Game Commission, in the selection of which the various Federation Divisions cooperated, had not come to definite conclusions nor filed a report. In fairness to the Committee it should be stated that before it was discharged with the thanks of the Commission, the Chairman, Dean R. L. Watts, prepared and filed with the Commission a condensed report giving the results of the Committee's deliberations and the findings of the several sub-committees. The Commission has taken this report under advisement.

The forest population of the area has been reduced by one member and the Warren State Hospital is richer in corresponding number by an accident which occurred about eight o'clock one night just below Bimber Run in the vicinity of Tidioute.

A large black bear, naturally very lean at this season of the year and still tipping the scales at 215 pounds, jumped the guard rails by the roadway and plunged headlong into a truck belonging to the Endeavor Lumber Company.

Damages accruing from the collision total a pair of smashed fog lights on the truck and one very dead bear. Only the fact that these trucks are outfitted with extra heavy bumpers saved the vehicle and its driver from what might have been serious injury.

Game Protector George Norris brought the animal to Warren and presented it to the state institution.—*Warren Times Mirror*

A pipeline worker whose identity could not be learned, probably will be particularly allergic to possums after an experience with a mother possum that was not content with snitching his lunch but also put his car out of commission.

The pipeliner had been leaving his lunch on the rear seat of his sedan and for several days had been missing some of the choice morsels. Yesterday he found all the meat gone from his sandwiches, the fruit had been eaten and the paper bag badly torn.

To make matters worse, when he attempted to start his car to return home from work it refused to start and had to be towed to a local garage. There a mechanic found the mother possum hiding under the dash, where she had chewed the insulation off the wiring and shortcircuited the ignition system.

Apparently the possum had taken refuge there when she was unable to escape from the car. Incidentally, the mechanic found that instead of one possum there were 13, for the mother possum was carrying 12 young ones in her pouch.

—*Waynesburg Messenger*

Every year sees more and more conservation commissions given discretionary powers to set hunting and fishing seasons and bag and creel limits. This privilege was granted to Michigan this year. Other Legislation of special importance in that State increased its season bag limit on pheasants from 6 to 8 and raised the daily bag of cottontails from 3 to 5. It also lengthened the bird, rabbit and deer hunting seasons, and earmarked 25c of each deer license to feed deer. Another law prohibits holders of fur dealers' licenses from buying beaver trapping licenses.

"While hunting vermin on Propagation Area C-10 recently, I shot a blacksnake measuring 6'5". I noticed two distinct lumps and another not so large. The two large lumps turned out to be two young rabbits and the smallest lump was a ringneck chick, possibly a week old. The blacksnake was the heaviest I have ever seen." —Game Protector Mark L. Hagenbuch, District 10, Division "C".

"On Sunday, June 6, Game Protector Hugh Baker and I saw what we believe was a coyote on top of Cedar Mountain about eleven thirty in the morning. We have had numerous reports that lead us to think these animals are becoming fairly plentiful."—Game Protector L. H. Wood, District 1, Division "C".

"Bear have been on the rampage again this Spring. On June 2 one broke into four barns and sheds on a farm belonging to Will Davies of Charlestown Twp., Tioga County. It tore several large holes in each building, finally killing one sheep which it dragged about a quarter of a mile into a hemlock thicket where it devoured the lifeless creature. Bears also have been active in other parts of the District having destroyed three colonies of bees in Sullivan Twp., and torn several boards from the side of a house in Union Twp. in their search for food."—Game Protector James A. Osman, District 2, Division "C".



"Keep running in a circle dear, after awhile he'll get dizzy!"

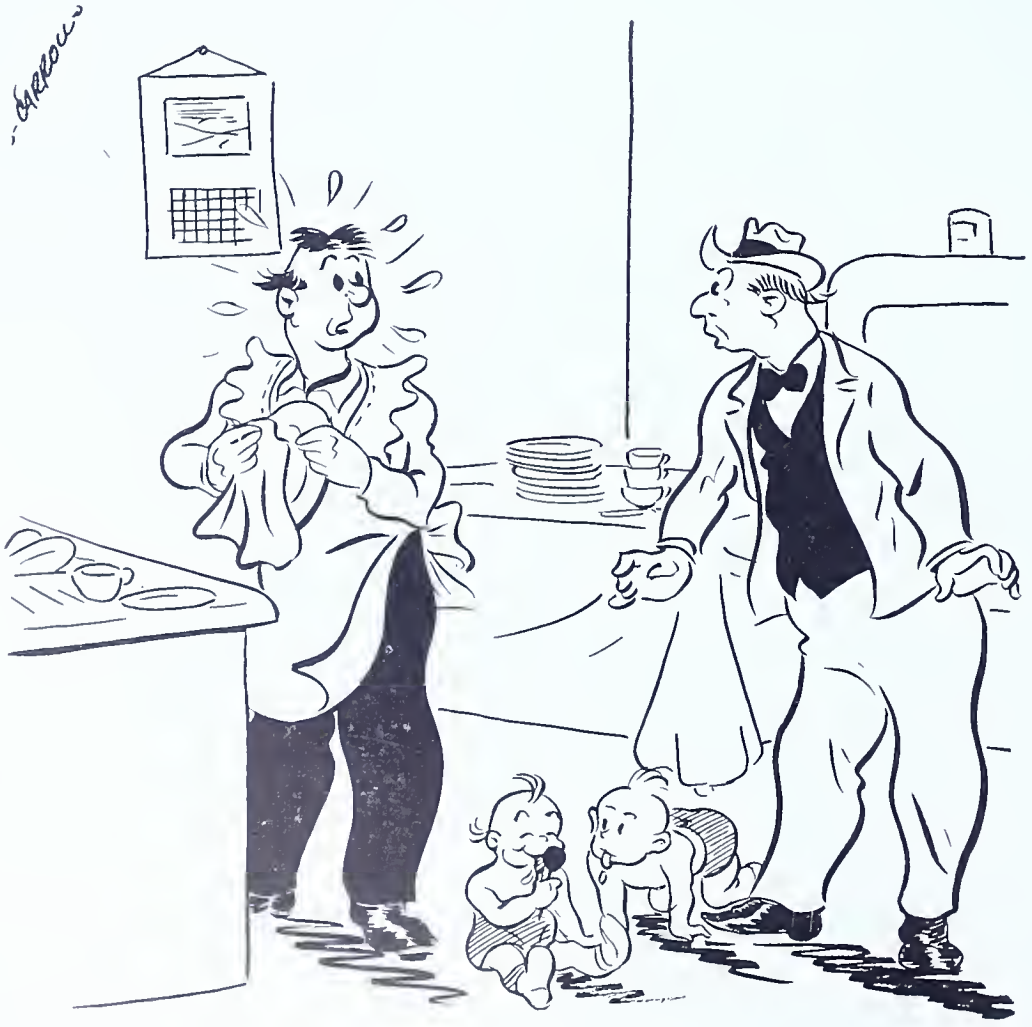
Days Afield

(Continued from page 15)

her nose. The other dogs joined in noisily and ran it in a nice circle and holed it up in a rock pile at my feet. As we bordered a stubble field Ross turned and threw a hasty shot through the thorns at another bunny. The dogs took the trail and ran down into the scrub oaks. Thinking he had missed we kept on towards the cabin. In a few minutes Pat caught up to us with the wounded rabbit held high and proudly in her mouth. She would give it only to me; I had to transfer it to Ross. It was a beautiful piece of retrieving through some two hundred yards of brush. She got some petting, which she accepted nonchalantly before rushing off into the brush again. Lunch at the cabin at one-thirty.

Lunch over, the boys clamored for good grouse shooting. I rashly promised them success and headed down towards Scrub-grass. Two birds took off the ridge out of range. On the precipitous slope, which elicited uncomplimentary and slightly profane remarks from some of the party, one bird took off through the laurel. A hasty shot and a miss. We rested at the mouth of the run and I took more razzing from Pick and Frank. In retaliation I took them up the almost perpendicular rhododendron-matted slope to the point. Several grouse took out close by, but they were as safe as if we were unarmed. By the time we reached the top Frank and Pick had forgotten all about grouse and were concerned only with getting some air in their tortured lungs. Ross, the veteran of the crowd, fared better, and was soon ready to go on. Once again able to speak, Pick started on me in earnest, dubbing me "Grouse," and other less flattering terms. We followed the flat along the ridge and cut down across the run without seeing a bird, though this was birdy cover and almost always good for a grouse or two, for the shooting was rather open. But today, when I wanted them worse than ever, they were too perverse for a solitary shot. As we dipped down to cross the little run two birds took off and headed up the other slope. They afforded fair shots, but the pressure was on and I shot too fast. Clean misses. From somewhere back in the trees came the derisive, "Did you get 'em Grouse?" Then a dirty laugh. Pick made me a quarter bet that I'd go grouseless, and I took him up, though with some misgiving. It was already five-thirty—only a half hour left—and I exhorted the dogs to new efforts and beat through the slashing above the cabin. From somewhere on my left came, "Only ten minutes left. Give up? You're licked, 'Grouse'." And I was. At the closing gong none of us had a grouse. The 42 season was closed. I took some more ribbing from the footsore and weary Pick and Frank.

After supper we sat around the fire with our smokes and a glass of ale. A fine all-around season. Unanimous agreement that Pennsylvania has no peer as an upland hunter's paradise. A toast to the efficiency of our fine game commission!



"Sorry I can't go to the movies with you Ed, but I must stay home and mind the children . . . my wife went to the skeet shoot."

With Those in Service

Sergeant Bill Miller dropped in the office the other day while on furlough. He is looking fit as the proverbial fiddle.

Just received word that both Lieutenant James N. Morton and Corporal A. C. Ganster are somewhere in England. Nice letter from "Clint" arrived too late to make this issue. One also from Lieutenant Bob Lichtenberger which will have to wait until September. They are doing swell though.

Dogs for Defense

May 15, 1943.

(The following is an extract of a letter sent to the Marion Kennel Club, Marion, Indiana, by Lt. S. E. Bowman, of the Seventh Air Force, in which he points out the valuable service rendered in the present war by dogs. In view of this high tribute, by one who admits he was skeptical, this copy is sent you for use in furthering the work of Dogs for Defense).

"Recently, I have had occasion to visit two rather remote mountain outposts in the Hawaiian Islands that each had sentinel dogs. The first to meet me at one of these stations was the dog who almost removed me from a Jeep before the guard could call him off. Altho this is friendly territory, if you could hear these boys give their ideas of how hopeless it would be for a stranger to enter their camp without being detected, you would be repaid for your efforts.

"Both these dogs, a bit on the cur side, have had the standard course of instruction. To have hinted that they weren't really doing their job well, would have started trouble on the spot. Never have I seen dogs so highly respected by everyone. To a homesick kid walking a lonely post all hours of the night, I'm convinced these dogs are doing their part if only companionship were considered. I'm just as sure a lot of interesting stories will come from combat zones, later, of the part dogs had in a job well done.

"I know of one small island not too far from Jap territory where dogs guard every foot of the beach at night. After test landing trials, these dogs are trusted implicitly to do their part.

"Just wanted to congratulate you on your good work which I think means more than some of you may even realize."

Due to the present gasoline emergency the Pymatuning Museum located at State Game Refuge No. 510, near Linesville, Crawford County, Pa., was closed Monday evening, July 5, 1943, and will remain closed as long as the present emergency exists.

However, any sizeable group which can legitimately make the trip to Linesville for study purposes may arrange to have the Museum opened during their visit by contacting Division Supervisor Hayes T. Englert, 14 W. First St., 2nd Floor, S. S., Oil City, a few days in advance.

Wildlife and Fishery Resources in Wartime

(Continued from page 23)

funds had not been available; areas for wildlife restoration and perpetuation are being acquired; and developments are being made on private and public lands for game and fur production. The Federal Aid to Wildlife Restoration Act was amended to extend its benefits to Alaska, Hawaii, Puerto Rico, and the Virgin Islands. Restoration projects were inaugurated in all these areas except Hawaii, where action was postponed because of the war.

Acquisitions made by 18 States this year for wildlife breeding, feeding, and resting grounds totaled 150,081 acres, representing largely additions to existing State programs. Examples are the placing of many scattered refuges and game management units in Pennsylvania, Michigan, Iowa, Utah, and Washington; acquisition by Kansas of 6800 acres in the Cheyenne Bottoms for developing a combination waterfowl refuge and public shooting ground; purchase by Wisconsin of land to restore the southern part of the famed Horicon Marsh; and purchase by Florida of 19,130 acres in the Charlotte County game management unit for deer, wild turkeys, and bobwhites.

A comparatively recent development in wildlife management has been the restoration by Federal aid of desirable species through soil-conservation practices. Game departments of Virginia, Florida, Alabama, Mississippi, Louisiana, Arkansas, Texas, Nebraska, Idaho, and Washington are supplying farmers in soil-conservation districts with seeds of soil-holding plants for use on field borders, gullies, and odd corners that cannot be successfully cultivated but will provide essential cover and food for game birds and mammals. Missouri conservation officials have cooperated with farmers in building ponds in areas deficient in surface water, to serve as refuges and breeding places for fur animals, waterfowl, and upland game birds and to provide water for domestic animals.

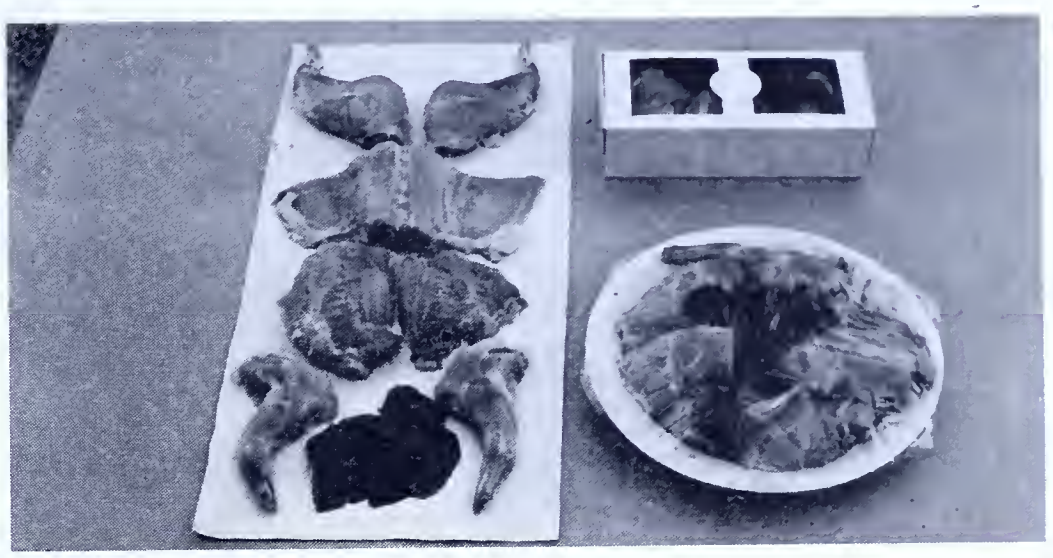


Photo U. S. Fish & Wildlife Service.

Method of cutting up fryer rabbit and suitable containers for carcass. U. S. Rabbit Experiment Station, California.

"Through the cooperation of a good Sportsman I learned where some dogs were chasing game and while patroling in that vicinity I was fortunate enough to find a litter of seven puppies about six weeks old which consisted of four females and three males. They had a nest under an old stump and had come out to bask in the sun, on the side hill. It was their last bask. Dogs such as these would do untold damage to wildlife and domestic stock as they showed signs of German Shepherd strain, both in color and lines. No doubt this dog like many others was neglected and went out into the woods to shift for herself. I was unable to locate the old dog, although I spent several hours looking for her."—Francis E. Jenkins, G. P., District B-5.

Taxidermy Examination

The next Taxidermy Examination will be held at the offices of the Pennsylvania Game Commission, Harrisburg, September 15, by the Taxidermy Board, the personnel of which is: Reinhold L. Fricke, Preparator, Carnegie Museum, Pittsburgh; Dr. Charles M. B. Cadwalader, President, Academy of Natural Sciences, Philadelphia, or one of his associates will substitute for Major Harold T. Green, Curator at the Academy, now serving in the Armed Forces; and M. J. Kelly, Curator, Everhart Museum, Scranton.

Persons desiring to compete in the examination must come to Harrisburg at their own expense. Applications to participate must be filed fifteen days prior to the date of the examination. The fee is $12.50, which will be applied against the $25.00 fee, provided the applicant passes. The fees paid by those not passing will be deposited in the Game Fund to help defray the expenses incurred in holding the examination. Applications may be secured from the office of the Game Commission at Harrisburg, upon request.



"This fishing rod you sold me last Spring is no good, I want to trade it on a gun!"

Victory Gardens and Ration Points *(Concluded)*

with dried blood have not been conducted extensively enough to show that they are fool-proof.

We are at present conducting experiments with various repellents and at the end of this summer should have much additional valuable information for victory gardeners along this line. The Federal Fish and Wildlife Service is conducting experiments with rabbit repellents on a big scale in New Jersey and Pennsylvania and they also should have much additional knowledge on this subject real soon. We are cooperating closely with them in this project.

Some people believe that rabbits have no material value and that the only good rabbit is a dead one. They believe that every effort should be made to kill and bury or throw away all the rabbits in and around victory gardens during the spring and summer.

Let us avoid being extremists and take a look at the entire picture before us. It is our contention that we can raise vegetables and still have the rabbits to provide us with sport and meat in the fall of the year. Naturally, 30,000 trapped and transferred to open hunting territory constitute only a small part of the breeding stock that produces an annual crop of rabbits, but it does help in this vast program.

The meat supply secured this year through rabbit hunting, like vegetable growing, should mean more to us Pennsylvanians during the present emergency than in normal times. In the 1942 hunting season a total of approximately 3,300,000 rabbits were killed by the hunters. At a conservative estimate of one and three-quarters pounds each, hog-dressed, this represents a total of 5,775,000 pounds or 2,887½ tons of rabbits. At the current maximum selling price of thirty-five cents per pound for hog-dressed tame rabbits, as placed by the O.P.A., the rabbits killed last year would represent a total value of $2,021,250.00, considerably more than the Commission spent for all activities in a year. This coming hunting season with meat so scarce and ration points required to buy it, the kill of rabbits by the hunters will indeed be a most important food item, a real saving in the family meat budget, and a saving of ration points for the purchase of other kinds of meat or butter, etc. *If anyone is skeptical of the difference wild game makes in the meat supply of our State during the hunting season, he should talk with the butchers in the smaller cities and towns. They will tell you that they can easily determine from the reduction in their meat sales that the Pennsylvania hunting season is in full swing.*

Besides securing valuable and nourishing food from victory gardens, the person working same also receives much healthful recreation and relaxation from a busy wartime work program. Gardens, however, are only seasonable things, and so other recreation must be provided for other seasons of the year. War industries attempting an extremely busy schedule have learned the great importance of recreation for all classes of workers, and hunting and fishing, which have always been favorite American sports, just now are more important than ever in furnishing relaxation for tired nerves.

The time to begin thinking about next year's victory gardens and rabbit damage is not April 1, 1944, *it is now!* If rabbits have caused damage to gardens in the past in certain sections or there is the possibility that they will cause damage next spring and summer, the best time to have them removed is this coming winter (December 15 to March 15) when they can be trapped more readily without a competing food supply, when game protectors, sportsmen, Boy Scouts and other individuals will have time as trapping agents to manage and assist in a vast statewide rabbit trapping campaign; then danger of injuring mother rabbits or killing their young is also eliminated, and there will be less rabbits to trap than after the young are born in the spring. Now is the time for sportsmen's clubs, Boy Scout troops, other youth organizations and individuals to contact their local district game protector and plan to assist him in a big local trapping campaign, thus insuring greater success than ever for the victory garden program for 1944, and also providing the biggest and best supply of rabbits ever secured in Pennsylvania for restocking purposes in open hunting territory removed from localities where damage is imminent.

The cooperation we all should give these two inter-related programs represents a very vital contribution to the general war effort, and will enable all of us to have more vegetables and at the same time conserve the domestic meat supply and the ration points required to buy it.

Notice To Victory Gardeners

As we were going to press the following news item regarding the European corn borer was released by the State Department of Agriculture. With their permission, we are quoting it below for the information of farmers and Victory gardeners.

"A warning to farmers and backyard gardeners to fight spread of the European corn borer, beginning the last week in July, has been issued by Miles Horst, Pennsylvania Secretary of Agriculture.

"If weather and other conditions are favorable to development of the corn borer in numbers, the southeastern section of the State may expect one of the worst invasions of this pest it has ever experienced, it is said. This section already has been visited by the first of two broods of the corn borer that invaded the area six years ago. The damage to early sweet corn and potato stalks in Dauphin, Lebanon, Lancaster, Cumberland, Adams and York Counties was reported as the heaviest from the first brood borers ever found in the State.

"Many inquiries have come to the Bureau of Plant Industry from small gardeners as to what they might do to prevent further damage from the borer. Damage already done by the first brood cannot be remedied. Prompt destruction of crop remnants containing living borers, through burning or burying in the ground to a depth of at least six inches, will decrease the number of worms to change into the parent moths of the second generation. This should be done as soon as the crop is harvested and the stalks cut down.

"The second brood borers should make their appearance about the first of August. It is recommended that growers begin applications of rotenone dust during the last week in July, or earlier. Dust should be applied so that it lightly covers all parts of the plant, or at the rate of 45 to 50 pounds to the acre. It may be difficult to obtain rotenone dust in many localities. An optional dust preparation is a 4 per cent nicotine in the form of a fixed bentonite mixture. Either of these should be applied at not less than five-day intervals. At least three applications should be made between late July and mid-August.

"The European corn borer is on the increase in the State, especially in the eastern one-third, according to Dr. Thomas L. Guyton, State entomologist. He says that the one practical way to aid in the prevention of loss to valuable crops from year to year is the prompt destruction of the plant remnants which serve as an over-winter shelter for the borers. Such remnants include corn stalks, potato stalks, and thick-stemmed weeds."

Today our aviators are considered the best marksmen in the world. Here again, it goes back to their training days of following through on a clay target at skeet or trap, experience gained by firing at moving targets from various angles.

PENNSYLVANIA GAME NEWS
Pennsylvania Game Commission
Harrisburg, Pa.

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THE FAMILY OF A. HUNTER, ESQUIRE—EPISODE NO. 29

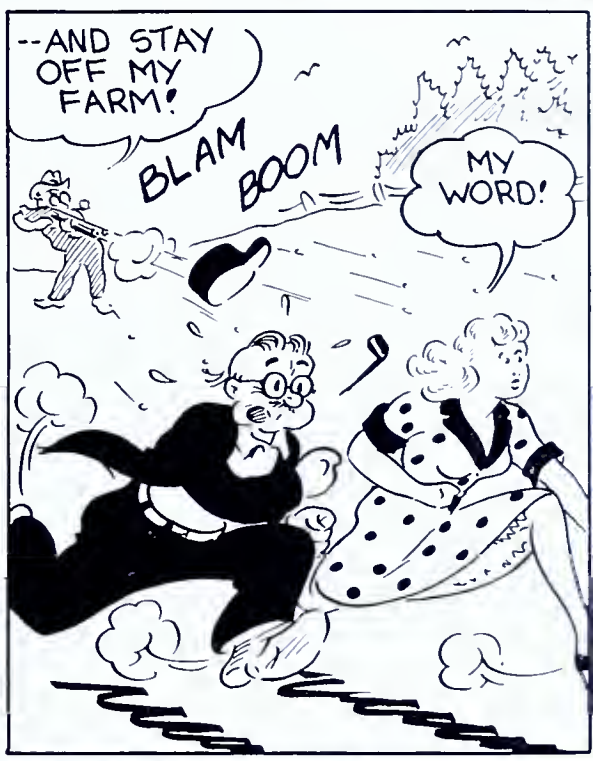




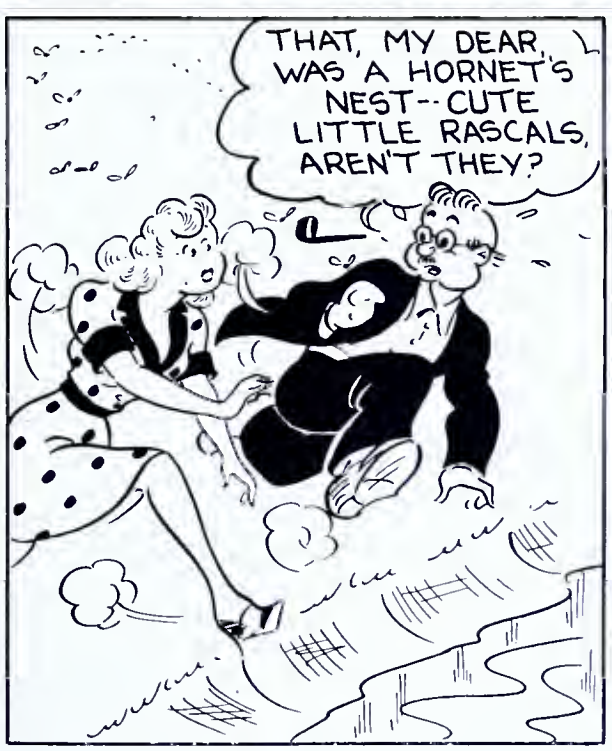


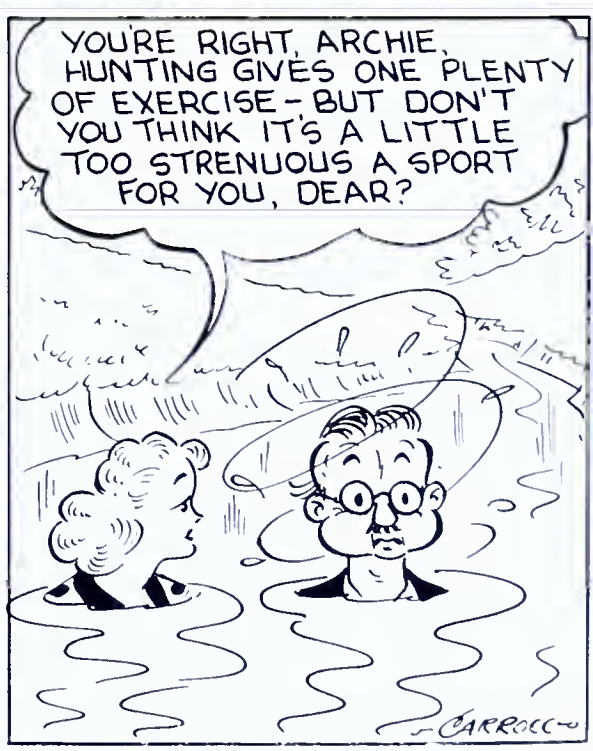












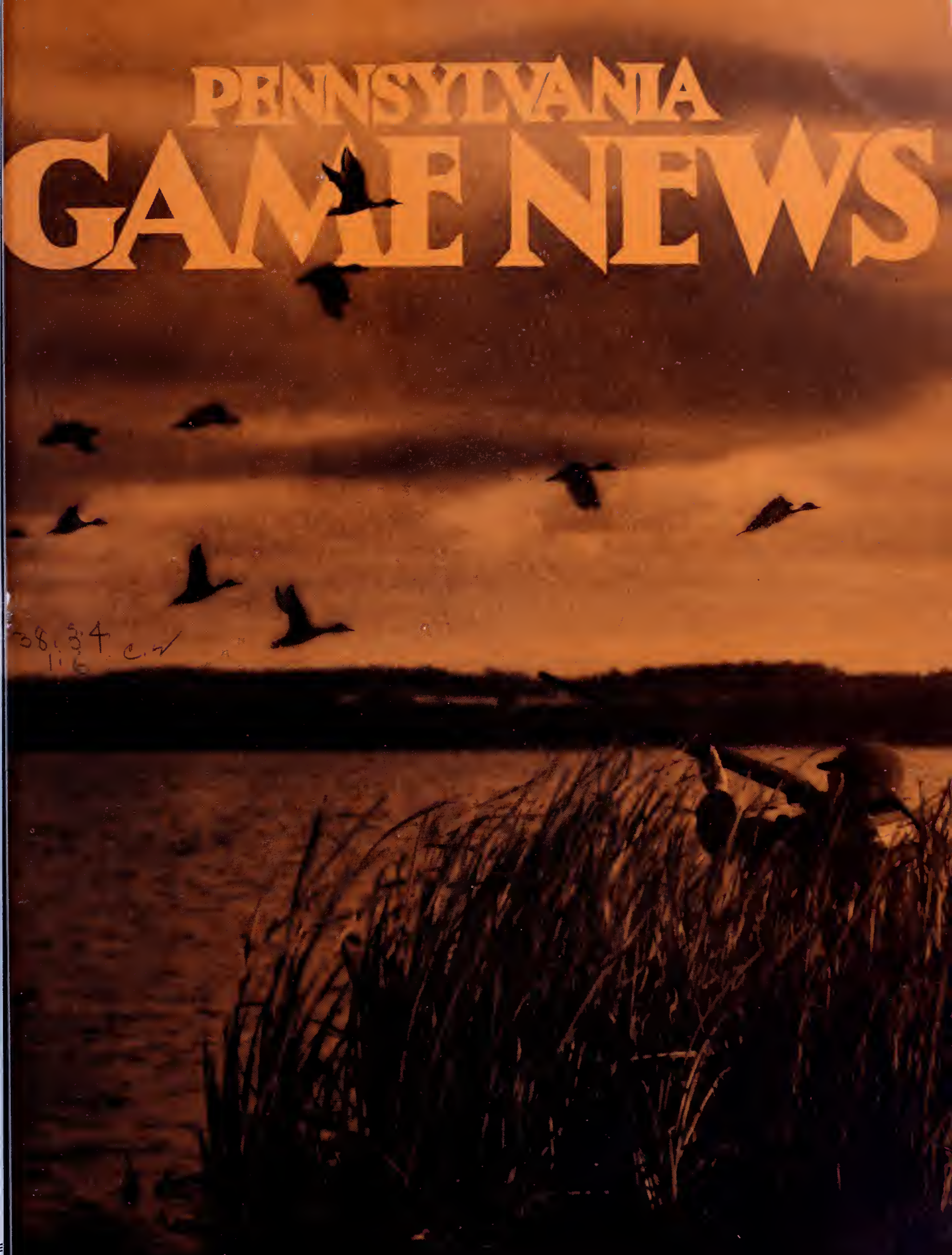
BUY WAR BONDS

AND

BACK THE ATTACK

PENNSYLVANIA GAME NEWS

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September 1943 Ten Cents

PENNSYLVANIA GAME NEWS

PUBLISHED MONTHLY BY THE PENNSYLVANIA GAME COMMISSION, HARRISBURG, PENNSYLVANIA

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VOL. XIV, No. 6

EDITORIAL

SEPTEMBER, 1943

IN THIS ISSUE

☆

How To Avoid Lightning
By Paul W. Kearney

★

Plans For Future Land Management
By C. C. Freeburn

★

How To Cook A Grouse
By N. R. Casillo

★

A Study of the Winter Activities of the New York Weasel
By Fred A. Glover

★

Fur Trapping Methods
By S. V. Sedlak

★

Practical Application of Mammalian Population Studies
By Victor H. Cahalane

★

Foxes Without Dogs
By J. R. Mattern

★

It Ain't Necessarily So
By E. Baden Powell

☆

Cover by W. L. R. Drake



The man you see here by this quiet stream is a loyal American. He is the kind of man who will work six gruelling days a week helping us to build the big, sleek bombers that will carry bad news to Tokyo and Berlin. Being a normal man, he gets tired, for work in a modern war plant is a high-speed proposition. Some relaxation and recreation are vitally important.

If I could have my way, every man and woman on the production line would spend every seventh day in the outdoors, hunting or fishing preferably, but out in the open where they can best restore their mental and bodily energies. Much of the present-day absenteeism in war-production plants is directly due to a failure of these energies, brought on by too many hours and too many days spent on the job without the proper kind of rest. Actually, there is a very small amount of deliberate, willful absenteeism in our war production.

If, however, men on the production line are allowed to work for many days at a stretch, they finally reach a point where neither mind nor body will function properly, and as a result we can expect both mistakes and accidents, brought on by reflexes which have been slowed up by fatigue. Such men must then take time off, and only too often they spend this time in places of amusement where not only is the air far from pure, but where overindulgence is brought on by the very exhaustion of their minds and bodies. As a result, when their day of liberty is over, they are unfit to return to the job. Not only do they fail to do a full job of work on the production line, but they actually become menaces to their fellow workmen and to the war effort. How much better it would be if these men would get out into the open country, in the sunlight and pure air, in the quiet of hills and streams and lakes!

Those of us who know and love our outdoor America are well aware of the mental and physical benefits of fishing and hunting, the easing of taut nerves and the healthy tiredness after a day in the open air. Fishing is one of the things that keep men fit—and fit men build good bombers!

GLENN L. MARTIN.

Reprinted June Issue of Field & Stream



It's a long way from the United States to the Advance U. S. Base in the South Pacific Area, where the above photograph was made—too far for a man to go without his dog. So Sergt. John W. Mehren, of Chicago recruited his dog Muff. She's a war Dog now and the Sergeant's team-mate on duty in jungles where Japs may still prowl. Thousands of Corps K-9 warriors, procured for the armed services by Dogs For Defense, are following the Flag, and more thousands are needed.—Official U. S. Army Photo.



How To Avoid Lightning

By Paul W. Kearney

ON a Sunday in August a bolt of lightning struck the beach at Riis Park, New York, killing three bathers and stunning fourteen others. Exactly one year later to the day and within twenty minutes of the time, another lightning bolt struck not two hundred feet from the scene of the first accident, killing three more bathers and injuring fifteen.

This coincidence does more than prick the old legend about lightning not striking twice: it emphasizes an elementary fact, which a lot of people on that beach apparently did not know—the worst place to be when lightning is striking close by is out in the open.

Since the peak of the lightning season happens also to be the peak of the vacation season, when the greatest number of people are likely to be outdoors, this is a good point to keep in mind. Ignorance of it is largely responsible for the fact that hardly a summer goes by without several golfers and fishermen being struck by lightning. Not so much because they were holding steel clubs or rods at the time; but because, like the bathers at Rockaway, they happened to be the highest points in the lightning field, hence the most attractive targets.

You know that lightning is "striking close" when the flash and the thunder peal are almost simultaneous. That's the time to brush up on your prayers! And you should remember that "out in the open" includes standing under a solitary tree and seeking refuge in an isolated, frame building, no matter how small.

Lightning frightens more people and kills fewer than any other common hazard. Fatalities from this cause seldom exceed four hundred a year, nine-tenths of them in rural areas. Statistically this is small potatoes compared with the 16,000 who die annually from falling down at home! Yet this doesn't alter the fact that lightning is no toy: it costs the public plenty in damages despite elaborate protection; it destroys around $20.000.000 worth of farm property a year plus thousands of head of cattle killed in the fields. A single stroke caused $100,000,000 worth of destruction when it hit a Jersey powder plant a few years ago. So, while lightning hardly justifies the rabid fear professed by some people, it certainly merits respect and sensible precautions.

Should you be caught by a storm in open country, your best havens would be a cave, a ravine or gully, a patch of woods, the denser the better. Give wire fences a wide berth; get off high ground if possible. And when the thunder ceases to rumble but comes in sharp, ringing cracks that jolt your teeth, forget you're a respectable member of the human race and throw yourself down flat.

The safest places are properly rodded buildings, metal structures, and buildings of steel-frame construction. Such places are struck frequently but rarely damaged, since the charge is conveyed harmlesly to the ground.

Lightning's penchant for chimneys (the highest point on the house) emphasizes the prudence of staying out of the line of fireplaces and stoves during a severe storm. For although a bolt may come down the chimney, it is likely to jump to some better conductor in one of the rooms, and it isn't healthy to be in the way. By the same token, lightning often follows plumbing or electrical systems through a house; hence the bathtub is not a very good spot to be caught in. It is advisable also to refrain from using the telephone if the outside wires are overhead. A safe place in an average home is the middle of a metal bed pulled out from the wall.

There is no basis for the popular beliefs that open doors or windows "draw in" lightning with the draft and that holding a knife, scissors, or similar metal objects constitutes a hazard. If a bolt is coming in, it'll come whether the doors and windows are open or closed. And while it will jump readily for some large metallic body, such as a stove, a small object like a pair of scissors can't hope to offer much attraction to such a big-league spark. The people Grandma used to tell about who were struck with scissors in their hands would have been struck anyhow because they were in the path of the discharge.

Truly, Nature's blitz is no toy; but it does submit to reasonable precautions. And although it scares lots of people half out of their skins, it actually kills only one-fortieth as many as die from falling downstairs or tripping over rugs!

Reprinted Good Housekeeping, May, 1943, by Special Permission

BE PATRIOTIC AND THRIFTY!

Don't Waste A Single Pound of Game Meat

PLANS FOR FUTURE LAND

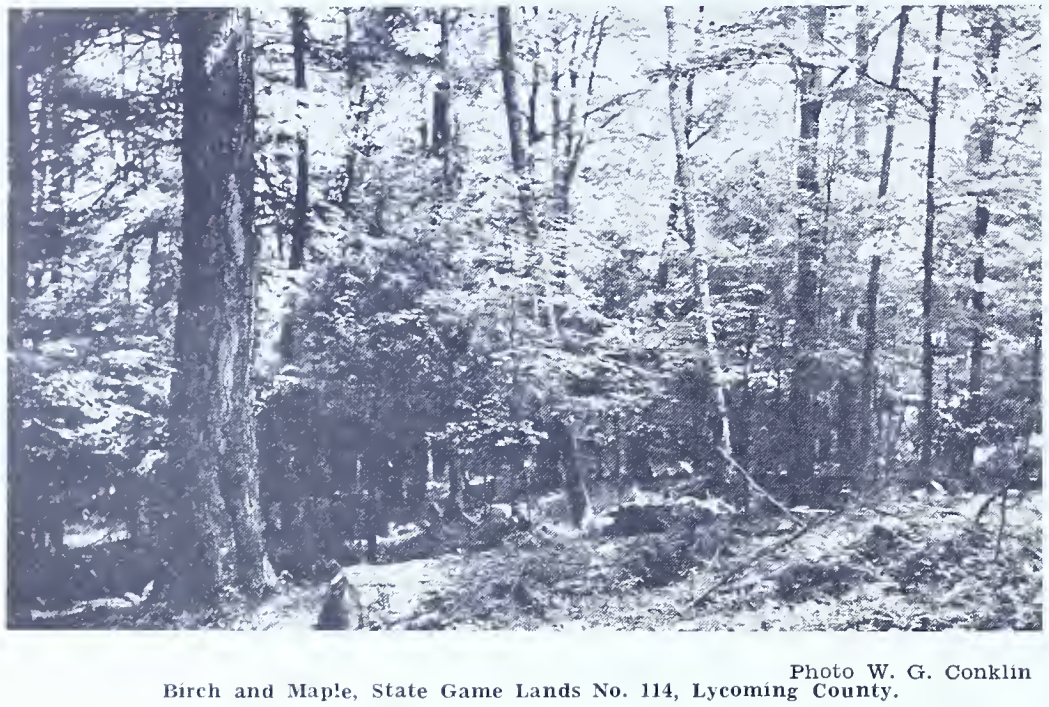


Photo W. G. Conklin
Birch and Maple, State Game Lands No. 114, Lycoming County.

IN any large business venture the first job is to acquire the plant or operating machinery. After that has been done the management organization takes over and operates the plant to produce economically and efficiently the desired product in the greatest possible volume.

The Pennsylvania Game Commission's Land and Leasing Program to provide refuges and public hunting grounds, is the biggest job of its kind ever undertaken by any state. It is not one "operating plant" but consists of many separate integrated units. To make that multiple plant produce the greatest benefit for the largest possible numbers of our citizens—an abundance of wildlife, adequate protection of watersheds, and a future timber supply—constitutes a management or operating job with many far-flung ramifications.

Adequate funds for the operation of the Refuges and Lands functions of the Commission were provided in 1927 when the Legislature passed a law raising the hunting license fee from $1.25 to $2.00. This additional 75c was earmarked solely for the acquisition and maintenance of State Game Lands and Refuges.

When the Commission's operating functions were reorganized on January 1, 1939, and two divisions were created (the Division of Lands and the Division of Game Land Management) in place of the Bureau of Refuges and Lands, it was necessary to proportion the 75c fund between them. This varies from year to year, but due to the increased management requirements during the past several years 65% of it has been used to finance Game Land Management.

The Division of Game Land Management plans and directs the rapidly growing volume of work on State Game Lands, Game Refuges, and Special Areas. To the general public the functions of this Division are probably the least known or understood of any of the various administration units comprising the Pennsylvania Game Commission.

The Commission now owns and controls more than 1,000,000 acres of land throughout the State for wildlife management and public hunting grounds. Over four acres out of every five are open to public hunting, the balance closed to shooting. This vast acreage has been divided into Land Management Groups in order to facilitate the work. There are 47 of these groups, each in charge of a Land Management Protector who handles the field work in connection with all Refuges, State Game Lands, Propagation Areas, and Special Preserves within the group assigned to him. Twenty-four of these group managers occupy state-owned buildings.

The ordinary maintenance in connection with the 503 land units owned and leased by the Commission is a big problem in itself—without considering the development work required to make every acre produce a maximum wildlife crop. The Game Refuges, Propagation Areas and Special Preserves, which aggregate more than 1,300, comprising over 172,000 acres, require the annual maintenance of more than 1,650 miles of boundary line. There are also approximately 2,500 miles of outside boundary line of State Game Lands which must be maintained. A six-foot strip must be mowed and brushed out for forest fire protection, wire maintained in good condition, and signs properly posted around all boundaries.

More than 450 miles of trails and approximately 650 miles of driveable roads are maintained for forest fire protection, and to make the lands more accessible for administrative purposes. Roads on State Game Lands are all closed to public vehicular traffic. It is also necessary, in many cases, to maintain telephone lines where headquarters are located some distance from commercial lines, and to patrol the refuges during the hunting season.

Farm-Game Projects, of which there are 73, contain 2,019 safety zones, all of which must be set up yearly and patrolled for violators. The repair and maintenance of the lines around the 812 refuge units on these projects, averaging about 8 acres each, are likewise a part of the program.

Actual development work on the lands was rapid, especially during the period from 1936 to 1942 inclusive, when WPA and other relief labor was available in large numbers.

During that period millions of evergreen and game food seedlings were planted; hundreds of food plots were cleared and planted to grains, legumes, etc., thinnings and release cuttings were made on thousands of acres of forest land; many miles of roads



Photo W. L. R. Drake
Under the CCC program the Commission benefitted greatly, particularly from a game land management standpoint. All sorts of improvements including release cuttings, road building, fire protection, food and cover development, etc., were carried on. Here a group is seen laying the foundation for a road bed.

MANAGEMENT

By C. C. Freeburn

and fire trails were constructed or repaired: hundreds of springs were cleared and walled; and much work, including the improvement of refuge and boundary lines, was accomplished.

Because of the large number of such workers who had to be employed quickly, and the limited amount of technical help available, advance planning was often impossible, and detailed records of all of this work were frequently neglected. However, much excellent work was accomplished and many thousands of dollars of Commission funds were thereby saved.

With the entrance of this country into the war, relief labor became a thing of the past, and many of our regular salaried employees were taken into the armed forces. Because of this, development work slowed down, and has finally come almost to a standstill.

This lull has permitted us to plan and organize on a much more efficient basis, so that future development work will be accurately planned before it is attempted.

Game Land Technicians are assigned to each of the seven field divisions to assist the Land Management Protectors, and advise the Field Division Supervisors. These men meet at intervals of several months and discuss their mutual problems. In this way the many practices of management work are correlated and improved throughout the State.

One of the first problems solved during the past year was the compilation of maps and statistics to show permanent improvements made on the Game Lands to the end of 1942. Copies of these maps are in the files of the Game Land Managers, the Division Headquarters, and the Harrisburg Office. These maps will be brought up-to-date each succeeding year so that the amounts and types of work accomplished on any particular Game Lands can readily be determined.



Photo W. G. Conklin

Brady Pond which supplies good fishing, State Game Lands No. 127, Monroe County.

In conjunction with this, it is planned to make Cover Maps of each of the Game Lands. These maps will show the types, densities and interspersion of vegetative growth on each tract. Once completed they can easily be kept up-to-date, and will become an invaluable permanent record of operations.

Work on these Cover Maps has been started, and before the end of the year we expect to have them completed for a number of the Game Lands. The first maps will include those lands which are best suited to intensive management practices. As time and qualified help permits, the work will be expanded until Cover Maps are available for every tract of Game Land in the State.

The maps will be used to plan future development work. Planning new projects should be comparatively simple, for the Cover Maps will give all of the information needed to do so intelligently and efficiently.

Comparison of the maps for any particular Game Land from year to year with conditions on the ground will soon indicate the success or failure of management practices.

The first tract to be mapped in this fashion was Refuge No. 510, the Pymatuning Area, the only wild waterfowl refuge in the State. The mapping in conjunction with assistance from Dr. Logan J. Bennett, a recognized and qualified expert on such matters, has enabled us to obtain a clear and concise picture of the area, and the territory immediately surrounding it. This information gives the key to proper management practices to pursue if we are to obtain maximum benefits from the area for wild waterfowl.

Further, in an effort to be prepared to use efficiently and intelligently any relief labor which may be available after the war, plans are now in progress to compile a schedule for the development of Game Lands and Refuges, using sound management principles as a guide. By planning in advance, much lost motion will be eliminated, thus assuring a properly coordinated program for future work. At present, the normal maintenance activities on Commission lands continues as far as available help permits. In many cases development work is also being conducted, but on a much smaller scale than was formerly possible.

Especial emphasis is now given to any items which tend to aid the war effort. One of the most important of these is protection against forest fires. Our men bend every effort to handle this problem, which includes the annual maintenance of many miles of roads and fire trails. Quick suppression of fires is necessary, and this can be accom-

(Continued on page 26)

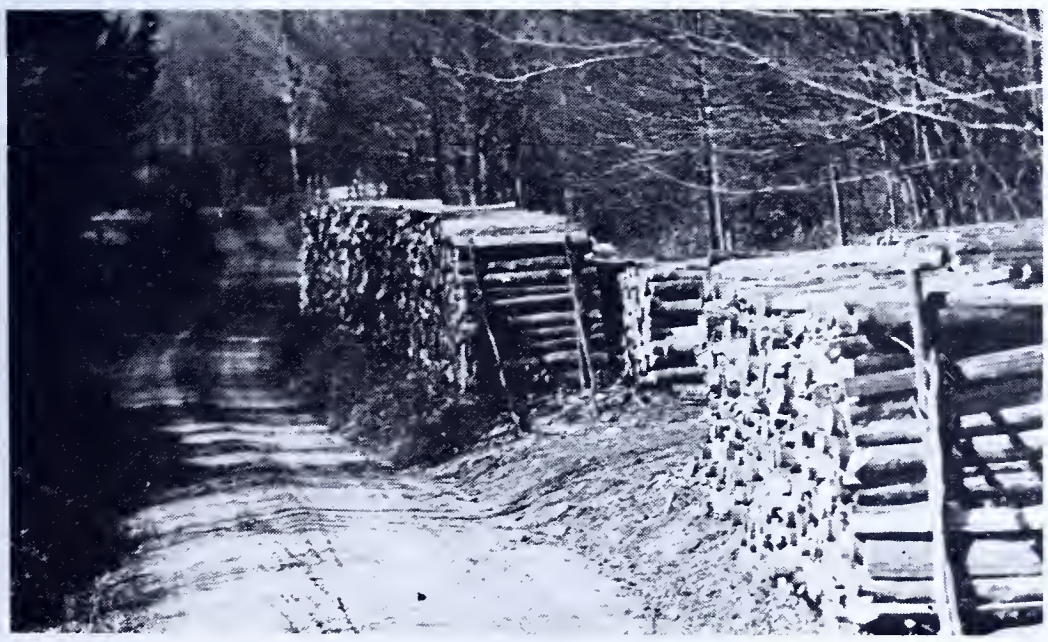


Photo D. L. Batcheler

State Game Lands. Timber for woodpulp and other uses is sold from State Game Lands wherever cutting is necessary or desirable. During the 1941-42 biennium a total of $39,263.04 was received from the timber and wood sales cut on approximately 5,000 acres.



This is the type of cover one finds in one of our better than average grouse counties. This happens to be an early November morning in Forest County.

How To Cook

"HEY Casey! Casey, are you hurt?"

I flopped over on my back from the prone position into which I had fallen after the explosion. The shrill voice penetrated my consciousness and I groaned.

"Are you hurt Casey?"

In answer I spat pieces of a pulverized molar and groaned again.

"What happened?" I finally managed as the fog lifted.

"The gun knocked you for a loop," my companion grinned in relief.

I staggered to my feet and stood there swaying. Blood trickled from the corners of my mouth and my head felt as if it had had a recent encounter with a truck or something. At frequent intervals I ejected more blood and tooth fragments.

"Boy, oh boy, what a wallop," I moaned, hanging on to my jaw.

"Here's the gun," indicated Alec.

I woefully shook my head. "I'll catch it when I get home."

That pretzel shaped piece of metal that I beheld was my father's most prized antique fowling piece. It had hung above the mantle ever since I could remember.

"What happened to the pa'tridge?" I inquired.

Alec plunged a hand into his coat pocket. "I nearly forgot," he muttered as he gingerly extracted a nondescript mass of bloody feathers. "Here's a wing."

"A wing?" I came back wonderingly. "Where's the rest of it?"

"That's all I could find," came the rueful reply.

And that was my first encounter with a ruffed grouse. A twelve-year old huntsman, an ancient musket and a huge powder charge was the combination that proved disastrous to both parties.

However, the whole affair turned out surprisingly pleasant. Two weeks later dad presented me with a beautiful single twelve and two boxes of black powder shells.

In those days it wasn't much of a trick even for a twelve-year old to get a nice bag of partridge in that part of New Hampshire from where I hail. For one thing, there was Wheelock Park, a place where the grouse were plentiful and unwary, and less than two miles from the very center of town.

If shooting in the park was unlawful it was a law that was never enforced, and besides, the only people resorting there were occasional picnickers or a lovelorn couple or two. Conclusively, the birds were practically undisturbed. Upon mature conjecture, I wonder now if the adult hunters kept out of there only because it was unlawful. Come to think of it, we never did encounter any other hunters.

The day after I received the gun, Hal Perry and I repaired to the park to give the arm a thorough workout. Now this may tax your credulity, but it should be mentioned that my companion, although armed only with a single shot air rifle, killed a grouse. A grouse, mind you, with a single shot from that ancient air gun Can you trump it? Not the yarn, the accomplishment.

In those days the woodland comprising the tract was open and clean, and the ancient pines and the hemlocks were giants of their kind. The forest floor of needles and moss and frequent clumps of luxuriant ferns provided a real setup for easy stalking.

Naturally, armed with the coal burner, as my companion aptly dubbed the shotgun, I led the way. Hal didn't have a chance, I thought. But what of it, I would kill enough for both of us. With that thought boosting my confidence we slid silently into a thicket of small feathery hemlocks.

When our heads emerged on the other side of the dense cover we gazed on a little clearing carpeted with tundra moss and partridge berries. Then, with an audible thump, my heart jammed



You too would grin if you scored with the very first shot of the day. Five minutes after this photo was taken this chap bagged his second bird; the bag limit inside of fifteen minutes.

a Grouse

By N. R. Casillo

in my throat as I spied a partridge avidly feeding on the nearest patch of berries. Of course, it was oblivious of impending doom. I remember glancing at my companion and grinning.

"Let him have it," he hoarsely whispered.

With that I furtively slipped back into cover and cocked the gun under the muffling folds of my sweater. Then, just as carefully, I poked the barrel through the lace-work of boughs as I grimly gripped the stock and forearm with jowl and arms and hands.

"What a shot!" I soundlessly exclaimed as I took a careful bead on that wholly unsuspecting bird.

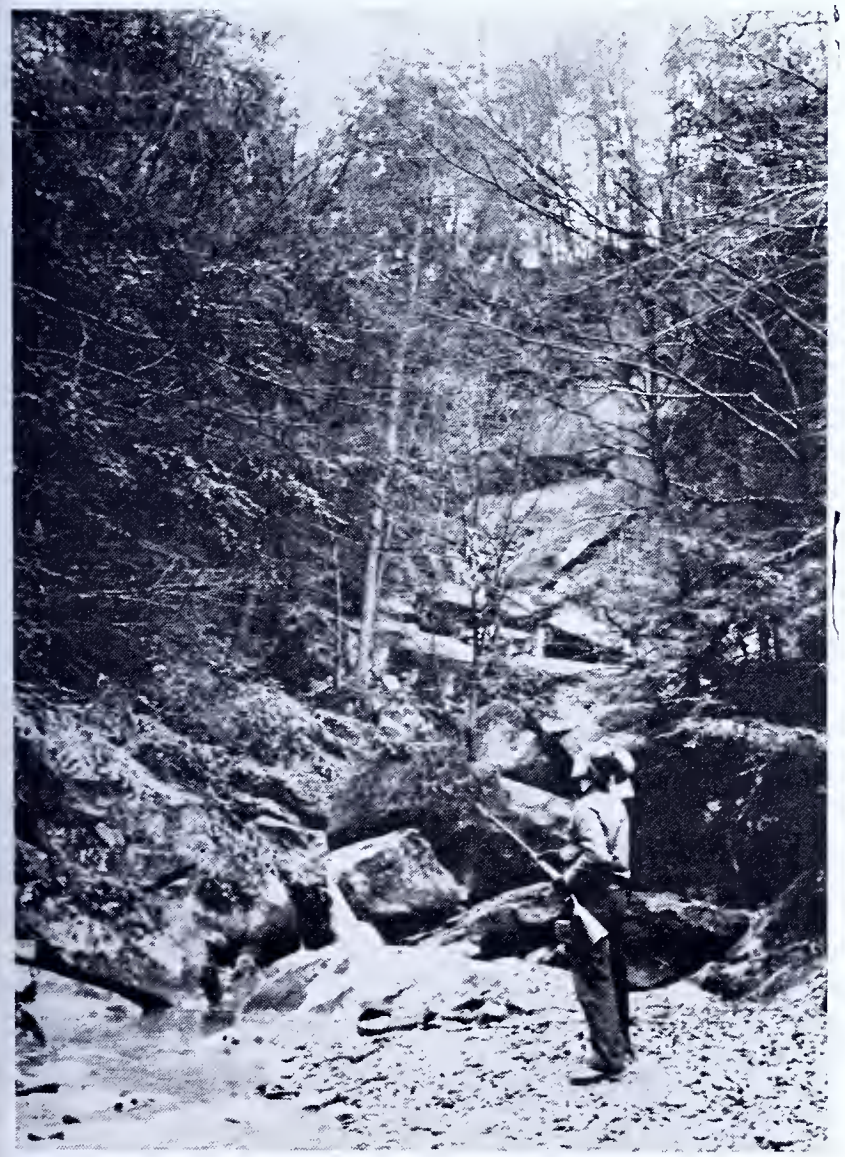
"Shoot!" my companion excitedly urged and subtly drove home his point with a poke in the ribs.

But, I couldn't pull that trigger. Each time I came to the verge of doing it I'd close my eyes and grip the piece all the tighter. That musket explosion was altogether too recent and painful.

Suddenly, a metallic *chug* sounded at my elbow and the bird leaped into the air. Almost at once it fell and began pounding the moss carpet with convulsive wingbeats.

Even then I didn't fully realize what had happened. But to lend proper emphasis to the spirit of the affair I mustered enough nerve to pull the trigger. The powerful blast seemingly rocked the trees and nearly caught Hal full amidships as he bent over to pick up his game.

Entirely unaware of his near escape, Hal finished the bird by wringing its neck and then held it aloft for my inspection.



A roosting grouse is away the moment he is spotted, usually before the hunter can get in a shot. This, incidentally, shows typical grouse terrain in Lawrence County.



Alertness and a knowledge of the birds' haunts and foods are as important as good marksmanship. If a choice had to be made, alertness would get the nod.

"Right through the eye," he cried with justifiable pride.

However, I wasn't interested in his feat at the moment. The new gun had wrought havoc with another tooth besides mashing a considerable portion of my upper lip. (It wasn't until the next day that I became aware of the damage to my arm.)

The number of birds that we flushed that afternoon was prodigious. A few minutes after Hal's incredible feat we put up a flock that took refuge in a young pine. There they aligned themselves on the exposed branches and foolishly *quiped* at us. I picked off two before they decided to move on. When one was hit full in the breast by one of Hal's B-B's it simply raised itself to its full height and uttered a surprised *quip*. No damage was done.

Our miraculous luck continued until we quit at dusk. When we arrived home we were laden with seven fine birds. I might add that I don't think that New Hampshire had a bag limit at the time. It couldn't have had, because I can vividly remember some of the town hunters returning from a day afield with their surries often loaded with as many as twenty brace of pa'tridge. Not bad shooting for two or three guns.

I can only too well recall the cryptic advice of old Doc Beal, the premier partridge hunter of those parts.

"Well, bub, if you want to know how to cook your pa'tridge," he would begin on the slightest provocation, "I'd say that you'd better shoot him first." And then he'd guffaw at the joke that I could never discern.

Years after old Doc's passing I concluded that his guffaws were prompted by the fact that with the passing of the years he had seen the birds become increasingly difficult targets. And I'm inclined to believe that the old boy got a genuine pleasure from the more difficult shooting. Anyway, he never wearied talking about it. In those days the peerless gamester was just beginning to come into its own.

Time worked its alchemy even with the grouse of Wheelock

(Continued on page 27)

A STUDY OF THE WINTER ACTIVITIES OF THE NEW YORK WEASEL

THE New York Weasel *(Mustela noveboracensis noveboracensis)* is the most common predatory carnivore found in Pennsylvania. The activities of the weasel are little known because of its nocturnal and secretive habits. A general account of the habits of weasels is presented by Seton (1929). Polderboer, Kuhn, and Hendrickson (1941) reported on the winter and spring habits of weasels in Iowa on farm land. This study is based on field research of the winter activities of the New York weasel in habitats other than agricultural land from January 4 to March 4, 1942. The observational areas composed 9.6 acres of abandoned farm land, 92.1 acres of chestnut oak forest, and 289.3 acres of scrub oak-pitch pine forest in Centre County, Pennsylvania.

The study was carried on in an effort to develop a winter census technique, to determine winter environments, and to procure information relative to winter movements.

The research work carried on was under the supervision of Dr. Logan J. Bennett of the United States Fish and Wildlife Service and Dr. P. F. English of The Pennsylvania State College.

On the abandoned farm land the vegetation consisted mainly of an upperstory of wild black cherry *(Prunus serotina)*, scarlet oak *(Quercus Primus)*, white oak *(Q. alba)*, and pignut hickory *(Carya glabra)*. The understory was composed mainly of wild carrot *(Daucus carota)*, goldenrod *(Solidago* sp.), and grass *(Graminae* sup.)

The chestnut oak forest type upperstory was composed mainly of chestnut oak, scarlet oak *(Q. coccinea)*, and red maple *(Acer rubrum)*. The predominate composition of the understory was mountain laurel *(Kalmia latifolia)*, huckleberry *(Gaylussacia* sp.), and blueberry *(Vaccinium* spp.).

In the scrub oak-pitch pine type the upperstory consisted mainly of chestnut oak, scarlet oak, pitch pine *(Pinus rigida)*, and red maple. The understory vegetation was predominately scrub oak (Q. ilicifolia and *Q. prinoides)*.

Because of the wariness and the noctural habits of the weasel, trapping or direct observation was not applicable. The only feasible method was to carry on tracking studies after fresh snowfalls during the winter months. Sample plots in particular vegetation types were censused to obtain an index to the weasel population.

Tracking conditions were first made possible in Centre County, Pennsylvania, by a snowfall during the evening of January 3 and the early morning hours of January 4, 1942. About 8 inches of dry snow had fallen.

The track census of wood lots, forest areas, and abandoned farm fields was carried on by first measuring and observing the borders of the area. A side of the study tract was chosen for the base. From this base parallel census lines were laid out every 30 feet and these lines were then covered by walking. Censusing of abandoned fence rows was carried on in the following manner: one trip was made down one side of each fence row and a return trip was made on the opposite side and thus both sides were covered. The width of each fence row was measured several times at different places to obtain the average width of the fence row. Measurements of the distance and average width were taken on each fence row that was checked. Pacing was used to determine the measurements.

Index to Sexes in Field

It is generally known that male and female weasels differ in size. The male is one-third to twice as large as the female. Tarsal measurements were taken from 39 specimens (31 male, 8 female) of the Wildlife Mammal Collection of the Department of Zoology and Entomology, The Pennsylvania State College. All specimens were New York weasels collected in Pennsylvania. Table 1 shows the maximum, minimum, and average tarsal measurements taken on the 39 specimens. The sexes of the weasels having tracks were ascertained by comparing the measurements of several fairly clear tracks found in the trail with the measurements in Table 1 as an index.

TABLE 1.—Maximum, minimum, and average tarsal measurements taken on 39 weasel specimens

Sex	Maximum	Minimum	Average
Male	52 mm.	41 mm.	46.3 mm.
Female	38 mm.	32 mm.	35.1 mm.

Distances of Winter Movements

Twenty-five weasels were located during the census period. Eleven of the weasels were recorded as males, ten as females and in four instances the sex could not be determined. There was a difference in the extent of the winter movements of the sexes as shown in Table 2. The males traveled further than the females.

Because very few signs of kills by weasels (Figure 1) were found while measuring the trail distances, it was assumed by the investigator that the kills were made in dense cover and in the dens of the animals preyed upon.

TABLE 2.—Cruising radii of 25 weasels traveled in one night

Number	Sex	Maximum Distance	Minimum Distance	Average Distance
11	Male	2,535 ft.	60 ft.	704 ft.
10	Female	1,420 ft.	20 ft.	346 ft.
4	Unknown	582 ft.	15 ft.	197 ft.

Den Data

When a fresh weasel track was located it was backtracked to reveal the location of the den (Figure 2). Dens could not be located for all of the twenty-five weasels because of the cover composition in some census areas. Those census tracts which had slashings and dense brush with snow piled on the leaves and limbs at the time of the census formed a barrier to den location. The slightest touch of the limbs by the investigator caused the snow to fall and obliterate the weasel tracks.

Numerous dens of other animals were visited by all of the weasels in their wanderings. The main weasel den was distinguished from the dens of other animals by the concentration of weasel tracks found in the vicinity. The data concerned with the locations of the weasel dens are presented in Table 3.

Habitat Preferences

Three major habitat types were sampled to obtain an index to the population density of the weasels and their habitat preference (Table 4). Approximately 9.6 acres of abandoned land, 92.1 acres of chestnut oak forest were censused, and also 289.3 acres of scrub-oak pine forest.

TABLE 3.—Den locations and size of den entrances found during winter census of weasels

Den Location	Size in Inches 1-2	2-3	3-4	Unknown	Totals
Logs		1*	1*	1	3
Rocks	2*	1*		1	4
Slash			1	2	3
Brush	1	1			2
Soil bank	2	2		2	6
Stump	2	1	1		4
Tree	1				1
No den				2	2
Totals	8	6	3	8	25

* Dens evidently dug by weasels.

[1] Paper No. 42 from the Pennsylvania Cooperative Wildlife Research Unit. Fish and Wildlife Service (U. S. Department of The Interior), The Pennsylvania State College, Pennsylvania Game Commission, and American Wildlife Institute cooperating.

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[2] Graduate Assistant, Department of Zoology and Entomology, The Pennsylvania State College.

By Fred A. Glover

No weasels were located on the abandoned land during the census. The results might have been different, however, had the census area been larger. Eleven weasels were located on sample census areas in the chestnut oak forest type. The population density in this vegetation type was one weasel per 8.3 acres. Fourteen weasels were recorded for the 289 acres of scrub oak-pitch pine type giving a population density of one weasel per 20.6 acres. A wide variation from 6.5-38.2 acres per weasel was noted in the three sub-type habitats. It would seem reasonable to assume from the above data that an environmental type with a fairly dense understory is preferred by weasels.

Factors Affecting Activities

Food, cover, and weather were the three factors noted to influence the activities of weasels in the winter. While carrying on the field study, the writer noted that without exception weasels were found to be in areas where a heavy, small mammal population was present. When trailing the weasels it was also noted that the trail led from one rodent to another or to dense clumps of bushes and slash.

The effects of cover types on the activities of weasels are shown in Table 5. In areas in which the ground cover was dense the weasels did not travel far. In most cases weasels were located in a dense vegetation type which afforded plenty of cover.

TABLE 4.—Population density of weasels in the various habitat types

Habitat Types	Acres	Weasels	Acres Per Weasel
Abandoned Land			
Abandoned Orchard	1.2	none	none
Abandoned Fence Row	3.4	none	none
Wood Lot	4.8	none	none
Forest Edge	0.2	none	none
Chestnut Oak Forest			
Cuttings and Slash	52.2	8	6.5
Open Forest	39.9	3	13.3
Scrub Oak—Pitch Pine Forest			
Cuttings and Slash	52.8	2	26.4
Dense sprout-growth	45.4	7	6.5
Open Forest	191.1	5	38.2
Total	391.2	25	15.6

TABLE 5.—Effects of cover types on cruising radii of weasels during the winter

Habitat Types	Number Weasels	Cruising Radii in Ft. Max.	Min.	Av.
Chestnut Oak Forest				
Cuttings and Slash	8	815	30	447
Open Forest	3	510	120	348
Scrub Oak—Pitch Pine Forest				
Cuttings and Slash	2	745	85	425
Dense Sprout-Growth	7	642	97	226
Open Forest	5	1,772	197	413

One female was trailed on four consecutive days and the trail pattern at the end of the four days slightly resembled a clover leaf. This weasel had investigated all slash piles within a radius of 825 feet of the home den.

An attempt was made to ascertain how soon after a snowstorm weasels appeared. It was found in most instances that about 24 hours elapsed before weasel tracks were in evidence and in some cases weasels were not active for about 36 hours following a heavy snowfall.

Summary

1. This study was carried on during the winter and spring of 1942 in Centre County, Pennsylvania on 9.6 acres of abandoned land, 92.1 acres of chestnut oak forest, and 289.3 acres of scrub oak-pitch pine forest.

2. Tracking studies after fresh snowfalls were used on sample plots to obtain an index to weasel population in particular vegetation types.

3. Male weasels are larger than females and the tarsal measurements can be used as an index to the sexes in the field.

4. The sex ratio was found to about 1:1.

5. Males traveled farther than females.

6. Weasels found occupying the same habitat type tended to range farther in open forest than in dense sprout-growth or cuttings and slash.

7. Weasel dens were found more often in soil banks with a diameter opening of 1-2 inches.

8. Twenty-five weasels were located on 391.3 acres in three vegetation types.

9. In the chestnut oak habitat type the population density was one weasel per 6.5 acres in cuttings and slash; in the open forest one weasel per 13.3 acres.

10. For the scrub oak-pitch pine forest type the population density was one weasel per 26.4 acres in cuttings and slash, one weasel per 6.5 acres in dense sprout-growth, and one weasel per 38.2 acres in open forest.

11. Weasels were more numerous in environments with a fairly dense understory of plants.

12. Food, cover, and weather were the major factors noted to influence weasel activity.

13. Weasels were found in areas where a heavy, small mammal population was present.

14. Activity usually did not begin until 24 hours after a snowstorm.

Literature Cited

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Fig. 1. Mouse tracks entered from the left and weasel tracks entered from the right. Only weasel tracks left the area.



Photos by The Author

Fig. 2. Tracks of weasel leading to a den.

Fur Trapping Methods

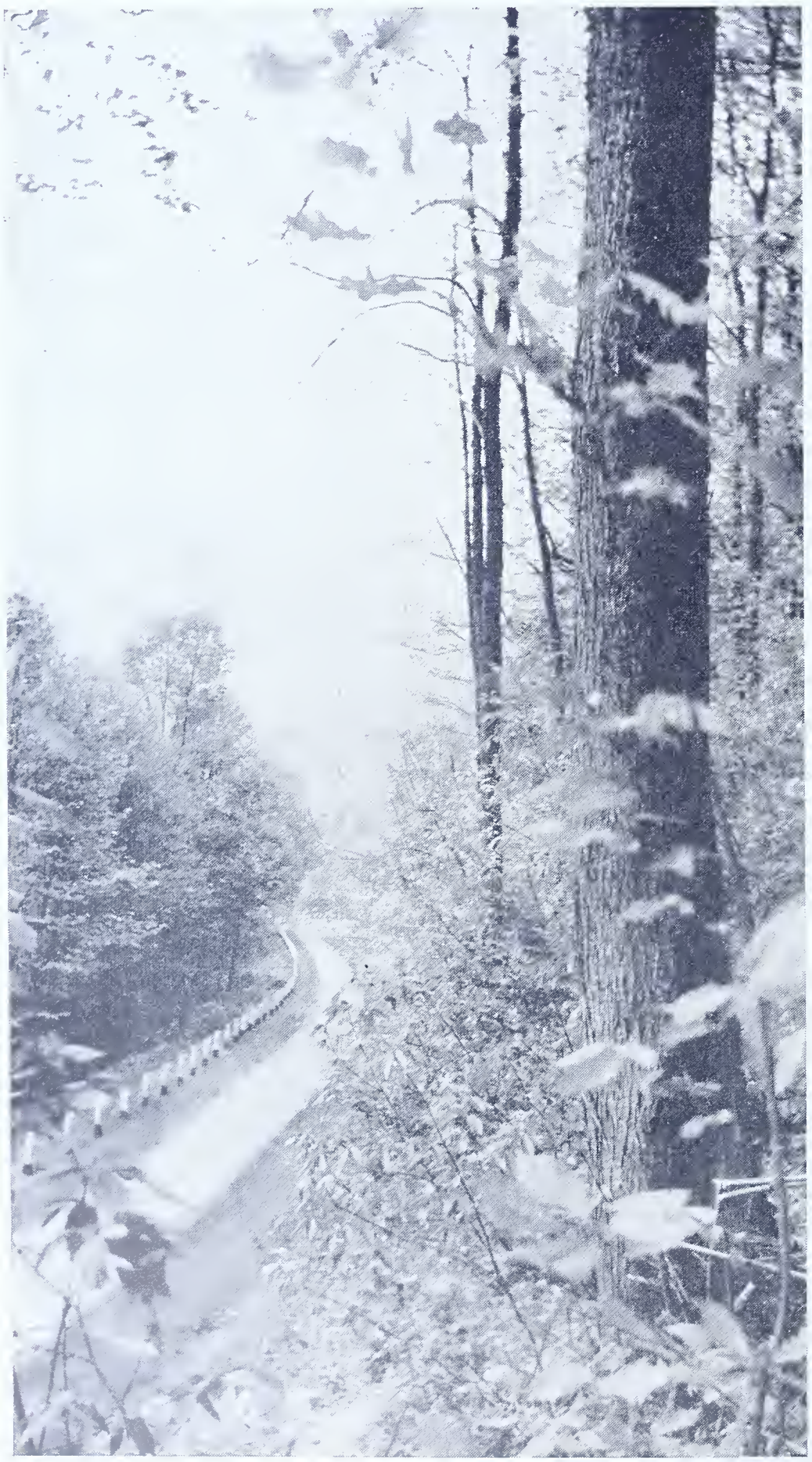


Photo by S. V. Sedlak

Autumn in the woods.

SINCE the subject of trapping with its various related phases is widely diversified, this and subsequent articles under the above heading will be written precisely on the assumption that they will help the beginner and the less experienced trappers.

A common mistake among new or inexperienced trappers, especially with boys, is the very bad habit of starting to trap fur-bearing animals too soon. The fur of these animals has no value until it has developed into partial primeness at least, and primeness in fur is a slow natural process brought about by cold weather. Therefore, to avoid disappointments one must remember that there is no sense in trapping too soon. Why waste time and fur? Where an animal is not protected by law a trapper should govern his moves in accordance with sane and wise judgment. Most fur-bearers are protected by law, however, and the declared open seasons can be relied upon as being correct.

Fur buyers want nothing but the highest quality pelts. True, an unprime fur may be taken within the period when most fur-bearing animals are in the pink of condition, but that is of rare occurrence and is due most likely to an unhealthy condition of the animal.

Foxes, both red and gray, weasels, wildcats and opposums are not protected by the law and may be taken at any time with the proper hunting license, of course. The beginning of the trapping season, as far as we are concerned, starts with taking foxes in our northern tier counties along about the 10th or the 15th of October. The time determining factor is the weather. When the forest foliage has faded and browned it is, as a rule, the signal to start setting out the fox traps. Foxes taken at that early date are only about one-third to one-half prime, but the pelts, especially those of the red, come out well in the tanning process and trappers believe that the pelt quality of the fox is good enough to commence trapping them at that time. Through the central counties the woods assume their drab appearance about a week later and the southern tier sections still another week hence, or about the 20th or 25th of October. Fox fur is at its very best after the middle of November and that is the time when one can count upon getting the finest pelts.

Because the fox enters the trapping picture early, I'll discuss fox trapping methods and the various related matters first, and then proceed with the subject along general lines.

Until comparatively recent years the two widely used sets in the trapping field were the land den set and the land trail (path or road) set. These two sets are obsolete nowadays and should not be used. As applied to dens or burrows in the ground a set would take a skunk usually but it was always highly probable that a rabbit would be taken at the same place. The law specifies that "it is unlawful to set traps closer than five feet from any hole or den which may be occupied by a fur-bearing

By S. V. Sedlak



Photo by E. J. Dailey
The trapper makes a set for a fox.

animal or predator, except that this restriction shall not apply to underwater sets,—"

The land trail set has even more drawbacks and it should be disregarded as much as possible. In the first place trails, paths and wood roads are used by man and animals alike, even dogs, therefore it is unwise to use the land trail set. Principally, the land trail set was used to trap foxes, but it caught whatever came along and stepped into it first—a rabbit, grouse, turkey, squirrel or any one of a dozen other small animals that ventured up or down the trail. Dogs would get into the set occasionally.

Traps intended for use in trapping foxes are of the size especially adapted to taking animals with feet like those of the fox or smaller; and while the feet of the average dog are considerably larger than those of the average fox, it stands to reason that dogs are not likely to get caught in a trap designed for small animals. This is a point every dog owner-sportsman should consider. Every dog owner-sportsman should think seriously about the intelligent use of traps as a predator control factor.

The proper use of the steel trap is a responsibility that rests with each individual trapper. Hence, he should exert every care to avoid catching unwanted animals in his traps, especially dogs and small game animals. After all, a trapper is out to get fur-bearing animals—not dogs or small game animals—and only practical sets should be used.

Traps intended for taking foxes should be cleansed of foreign odors before they are used. New traps contain greases and oils, old traps contain rust and other contamination. The traps with chains and steel grapples or steel stakes should be placed in a kettle containing about two-thirds of water and one-third of maple or walnut tree bark, put over a fire and left to simmer at the boiling point for about one hour, and after that left to cool off for about another hour. The traps should then be withdrawn and handled with care thereafter to prevent contamination of any kind. Some trappers use clean gloves in handling traps after they have been boiled. It is advisable to do so, especially during the process of setting.

Fox Sets

In trapping red and gray foxes the three most successful methods known are: the dirt hole set, the mound set and the water set.

Dirt Hole Set: About a half-century ago trappers had used a set known then as the bait-hole set which was, perhaps, the nucleus of all later used sets of similar nature. The modern dirt hole set was discovered and perfected by Mr. E. J. Dailey of the northern Adirondack region of New York State, and the description of his well known set is as follows:

When possible it should be made in clearings in the woods where a fox, when approaching can see all around. It is to be made in exact imitation of a hole as dug by a fox when it buries a piece of meat, and that is somewhat along the fashion the dog uses when he wants to bury a bone. If sand patches can be located or other patches of dirt, the dirt hole should be dug out at the edge of these. Where there is heavy sod, use a small axe to cut out the sod in a V-shape; here the dirt hole should be dug at the small end. The sods should be carried away several paces and be disposed of. With the aid of a narrow trowel dig the hole so it will be about three inches across at the mouth and about six inches deep on a slant. Spread all dirt back naturally. Then dig an excavation in front of the hole to fit the trap. With this particular set a stake, one of steel or wood and about eighteen inches long is used, fastened to the chain. Drive the stake down into the excavation that was made to fit the trap, away down out of sight, then fit the trap chain into the same excavation and then the trap. The trap should be set with the jaws opened parallel with the way the animal would ordinarily make its approach (this applies to every set in every case of trap-setting) A piece of waxed paper is placed over the pan of the trap and this is tucked down between the jaws in order to keep dirt away from underneath the pan, which is, incidentally, the trigger of the trap; soft moss or a wad of cotton may be used instead of the waxed paper and inserted under the pan, it serves the same purpose. Then a layer of fine dirt, about a half-inch thick, is spread out over and about all exposed parts of the trap and this is made to look as natural as a fox or a dog would do it after it had dug out the dirt hole. With the aid of the trowel, a piece of canned house cat is shot down into the hole for bait, and that completes the set. Be sure nothing is left laying around the place when you leave.

(Continued on page 28)



Photo by S. V. Sedlak
A youthful trapper with a catch of two red foxes.



Tree and brush clearing operation for "Big Inch." Game Lands No. 50, Somerset County.



Right-of-way for "Big Inch" cleared of trees and brush. Game Lands No. 48, Bedford County.



The "Big

Longest Oil Pipeline in World Crosses Game Lands

THE largest and longest oil pipeline in the world, 24 inches in diameter, recently completed as a war emergency by the Federal Government, crosses seven unit blocks of Pennsylvania's State Game Lands.

Crude oil from the wells of Eastern Texas is pumped to refineries of Southeastern Pennsylvania and Central New Jersey. This 24 inch pipeline is 1,251 miles in length, extending from Longview, Texas, to Phoenixville, Pa. From that point, oil is fed into two 20 inch lines, one going to refineries on the lower Delaware River, the other to the vicinity of Bayonne, New Jersey. Including the two 20 inch lines, the total length is 1,388 miles.

About 25 pumping stations along the line will be required to push the oil northward and eastward, across mountains and valleys, at a rate of about 100 miles per day. In other words, it will require about 13 days for the crude oil to make the journey to the east coast. All pumping stations had not been completed when the last section of pipe was welded together at Phoenixville, July 19, 1943, and it was estimated that at the outstart the rate of flow would be only 50 miles per day. Oil had already been started through the pipe when the last link was being welded, and when dedicatory ceremonies were held in the presence of Secretary of the Interior Ickes and other governmental dignitaries near Phoenixville on July 19th.

To fill the pipe requires an estimated 210,000,000 gallons, or the capacity of 21,000 railroad tank cars. At top capacity the pipe is expected to deliver 12,600,000 gallons of crude oil a day to the eastern seaboard. Many millions of gallons of gasoline are required for our heroic fighting forces in Africa and Europe, as well as for civilian uses in the Eastern United States. By piping crude oil to refineries on the Atlantic Coast, the pressure on railroad tank cars will be materially relieved.

The Reconstruction Finance Corporation furnished $95,000,000 to finance the job. It required only one year to complete, which shows what the American people can do when put to the test. Approximately 15,000 men were employed on the project most of the time, to say nothing of the huge quan-

Several boxes of dynamite were reported used for this blast of rock in the process of leveling on Game Lands No. 50, Fayette County.

Inch"

By W. Gard Conklin

●

tities of materials and equipment, as trucks, tractors, bulldozers, ditch diggers, welding machinery and miscellaneous tools of all kinds. Every pipeline contractor and builder in the United States who had construction equipment heavy enough to handle pipe so large was called on to construct sections of the line and pumping stations.

The line follows the contour of the land, through agricultural and forest territory, over mountains and under rivers, several feet below the surface. The roughest kind of terrain was encountered. It was a tough job well done.

Now, another pipeline, this one 20 inches in diameter is planned to parallel the present line.

The "Big Inch" pipeline crosses the following blocks of State Game Lands in Pennsylvania:

Game Lands	*County*	*Township*	*Length in Feet*
124	Fulton	Ayr	1,168
53	Fulton	Ayr	7,372
65	Fulton	Brush	4,489
97	Bedford	Monroe	1,680
48	Bedford	Cumberland	1,845
50	Somerset	Black	5,951
51	Fayette	Dunbar	13,026
			35,531

Practically all of the almost seven miles of pipe line on State Game Lands is through heavily wooded territory. Forest growth on a strip of land between 50 and 75 feet in width was cut or otherwise removed. Merchantable timber was cut into usable lengths and piled along the sides. It remained the property of the Game Commission and was sold to the highest bidder. Tree tops and other debris was piled and burned to eliminate fire hazards. Rocky and uneven spots were then levelled off, after which the trench was dug. Many sections of pipe were then welded together, and the long "ribbons" were lowered into the trench and covered.

The Game Commission was pleased to be able to cooperate with the Federal Government in this project so necessary to the war effort.

Photos by W. L. R. Drake

Leveling prior to trenching. This bulldozer pushes huge quantities of rock and soil. Game Lands No. 50, Somerset County.



The "Big Inch" laid over a rock ledge, and covered. Game Lands No. 51, Fayette County.



A "ribbon" of pipe, after many sections were welded together, being lowered into a trench.





Photo by W. L. R. Drake

Foxes Without Dogs

By J. R. Mattern

IF you trail along on a horse after a fox, and believe in letting the fox get away, or be torn to pieces by your two or three dozen dogs, this is not your kind of a story. It isn't even based on your kind of country.

After the ridges and the laurel thickets near our college quieted down in late December, another young man and I discovered that more wildlife was in the woods this year than we had ever before observed. Fresh snows kept renewing the tracking. Perhaps our neck of the woods was just a pocket where birds and animals were unusually plentiful, or it may be this condition prevails generally over the central part of the state. Anyhow, it bore out our November observation of great numbers of grey squirrels. Almost any large tree we stopped under would show a waving tail after the usual searching. Bruce said that one evening he practically had to build a cage about himself to prevent overkilling the legal limit.

On one forenoon's walk, about Christmas, covering a distance of about two miles long by one mile wide, I saw the tracks of three minks, two weasels, several beavers, five possums, numbers of rabbits, lots of squirrels, two grouse (we jumped seven), three wild turkeys, and five foxes. In a rhododendron thicket up on the side of the mountain we saw where two foxes had killed five rabbits within a space of 100 feet.

With the tracking snow so clear and traveling on foot so easy, it seemed a simple matter to us to catch sight of some of the foxes. Bruce carried a .22 rifle, and I took a shotgun.

We picked out a big track to start with. It led us over a couple of high hills for about two miles; then back to our starting point; and off again toward the top of the Allegheny several miles away. We left it, concluding it was a red fox which ranged too widely for us.

There was only one of these big tracks to a dozen small gray fox tracks to be seen. Next time out we picked up a gray's track and followed it up to the thickest mentioned. My track led finally to a leaning tree; and in this tree about five feet up was a round limb hole about five inches in diameter. When I looked in a pair of eyes gazed back, gleaming like two coals.

When I drew away, the fox rose toward the hole, which I had to plug up quickly with my elbow. Then I called Bruce, and shot the fox in the head with his .22 rifle.

Half an hour later Bruce jumped another gray fox, saw it sixty yards away, and missed it with his rifle. We chased this fox, and others, in that laurel thicket for half a day. They would not leave it for more open country on the hilltops or in the valley, and we were not lucky enough to bring them around to one another in the brush.

Our observations had shown us that the fox tracks, particularly the large ones of the reds, climbed through certain saddles of the hills regularly. When next we found a big track, Bruce went up to the most likely saddle, and I followed the track to chase the fox to him. This playing-dog business worked all right, except that our fox chose a neighboring saddle this time.

The time was noon, and the day pleasant. Our red fox was over in a strange country from which he might be induced to return. We went to a house in sight, and persuaded the man who lived there to come out and watch one of the saddles. I watched the other, and Bruce took the track. In two hours Bruce came back to me, much disgusted. The fox had gone right across the saddle where our helper was supposed to stay, but he had got tired waiting after one hour.

(Continued on page 29)

MORE AND BETTER WALNUTS

A Walnut Contest for 1943 for Everybody

ONE day last spring, within a stone's throw of where the Declaration of Independence was signed, three men gathered to draw up a declaration of greater importance to America. For, where the former declared the ideal of independence, this document shows how.

For forty years individuals and associations with vision have attempted to find better varieties of black walnuts. However, nothing has ever been done to raise the level of the common wild walnut until these "three wise men in the east" thought up this 1943 Declaration of Independence for the landowners; a crop that lifts the mortgages.

Said Wheeler McMillen, President of the National Farm Chemurgic Council:

"As our natural mineral resources become increasingly costly to exploit, the hope of abundance grows brighter in the nation's laboratories. Organic chemistry and plant genetics, functioning with other sciences in the spirit and concept of chemurgy, are yielding unbelievable results. New materials, often better than the things displaced or supplemented, and even things entirely new to man's use, are appearing.

"The grand old American black walnut has an important part in this picture. The shell is known to have over 32 uses. The kernel, aside from being one of the best foods, has potential values as a source of oil said to be better than linseed oil. The hull is used in medicines and cosmetics, while the timber has proven one of the best investments ever known.

"It has lifted a mortgage and prevented bankruptcy.

"The benefits of trees and their products accrue to those who keep planting trees or seed. Modern selection makes available the fastest growers and those that bear the thinnest shelled nuts."

Said John W. Hershey, Secretary-Treasurer of the Pennsylvania Nut Growers' Association:

"Science has shown remarkable progress in improving the quality of the common flock or herd by introduction of better males and females.

"History tells us the wild hard shelled almost unedible nut of Northwest India evolved into our present strain of English walnut by always planting a better nut. All the remarkable varieties of the pecan sprang from nuts planted by some farmer who thinking—'this nut is so fine it's a shame not to have more like 'em'—planted it.

"And so it is, in the great American black walnut family. Nature did a little selecting, man caught them through contests. Research has proven the seedlings from improved varieties, especially the Thomas, have better nuts than the common run seedlings of the wild sometimes superior to the Thomas itself. Yes, by making 'better nut plantings' a family ritual each year we have evidence we can raise the cracking quality of the American walnut to the standard of the English walnut or pecan."

$$\frac{\text{Idle Acres}}{\text{Tree Crops}} + \frac{\text{Idle People}}{\text{Idle Money}} = \text{Prosperity}$$

Said M. Glen Kirkpatrick of the *Farm Journal*, leader in America's Farm editorial field:

"Native nut trees are more valuable than ever because of the need for food, feed, lumber, essential oils and other products that trees can supply. Trees of this kind can be grown on land too rough for cultivated crops. That makes trees all the more valuable. Unlike some other types of woodland trees, walnut trees provide more than a single source of income. While producing cash crops for the farmer, they're growing timber for the children's children. Time shows, trees planted today are mortgage lifters. Those not planted are gully washers.

"We can count on the tree crop experts making more progress. Their progress would be even more rapid if farmers would back them up with a genuine interest in tree planting. If farmers would plant the nuts, acorns and fruits from their most desirable crop trees, there would be a broad base of tree crop improvement on which the tree crop specialists could operate much more effectively."

Procedure

Sunday School Teachers, School Teachers, 4-H Club Leaders, County Agents, Scout Leaders and Parents

1. Instruct your group to ask questions. This will locate the best tree in your community. If you can find a grafted tree, by all means use nuts from it.

2. Hull them when the nuts fall. The owner will be glad to cooperate in giving you some of the nuts to plant. Often you can gather and hull the crop on the halves.

(Continued on page 28)



Black Walnut. Photo W. L. R. Drake

"It Ain't Necessarily So,..."

By E. Baden Powell

Here's a Real Thought-Provoker—Left Wide Open for Argument by the Author's Cagey Four-Word Attack



DURING World War I, Vernon was one of those big bore addicts, regardless of the game. He proclaimed the powers of his .405 Winchester to the exclusion of all others on everything from coyotes to wild horses. He castigated any gun smaller than his .45 Colt revolver for anything from jackrabbits to man. But when he really waxed eloquent, it was about his open bored 10 gauge Winchester Repeating Shotgun, which he used on everything from quail to sage grouse.

Mellie, on the other hand, was an exponent of the small bore. With his .250 Savage, Mellie had claimed kills on jackrabbits and coyotes at such distances as to deserve the skepticism of anyone not a witness to the act, and a destructive effect that was greater than any gun he had used. His new, light .32-20 Colt Police Positive Special had produced, he claimed, better scores for him than any other pistol on the market and, to top the list, he claimed that he not only bagged more quail with less shells with his new full choke 20 gauge Smith double than any gun he had ever tried, but that with small shot it was a waterfowl gun equal to the best.

Now it so happened that I lived on the only other ranch in that southern thirty-mile stretch of Buena Vista Valley. The cattle belonging to all three ranches roamed together over the great Humboldt and Cinnabar Mountains to the east and west of us. These ranges teemed with mountain quail, sage hens, deer, varmints and wild horses. Having gone to school with Vernon and Mellie and sharing the cattle ranges with them, I wanted to be friends with both. However, to add to the general confusion, I was neither a big bore nor a small bore crank, but rather had found my .30-40 Krag with proper handloads reliable for everything from jacks to horses, my .38 Colt Special target revolver a most accurate all around sidearm, and my 12 gauge modified choke Marlin Model 28 hammerless pump, with proper loads, ample for quail ducks and sage hen.

Vernon was a shotgun fan who believed that the gun which demonstrates an evenly spaced pattern on a paper target will kill more birds than a shotgun which throws uneven patterns, with larger spaces between some of the shot clusters, but I said IT AIN'T NECESSARILY SO,—because scatterguns are mostly used in shooting at moving objects and all of the shot doesn't get there at the same time.

For example, let's consider a typical 12 gauge duck load consisting of an ounce and a quarter of No. 6 shot, fifty yards away, fired from a full choke gun. The column of shot is about 4 feet in diameter and about 12 feet in length, which means that about 280 pellets are scattered through about 140 cubic feet of air space travelling at a speed of somewhat less than 1,000 feet per second. Now suppose the shooter had aimed well enough so the pellets in the first part of the column got to the same place, at about the same time that a large fast duck crossing at, say, 100 feet per second (68 mph) got there. The shot would be travelling about ten times as fast as the duck and, while the duck moved forward across the shot column one foot, the shot column would have moved forward about ten feet.

It can readily be seen that a cluster of shot would as likely intercept the duck, with as many or more pellets, from a shotgun that had a tendency to bunch its shot, as from one that distributed a uniform pattern throughout its column.

Of course, stationary targets, or ones moving straight away, or exactly toward the muzzle of the gun, might be more likely to escape through a hole in patchy patterns without being struck, such as straight-away targets at skeet, but in all cases where angles are involved, the results are likely to be quite different. The moral regarding this: If your gun doesn't pattern on a stationary paper target as well as your neighbor's, don't be discouraged and trade it off. The cold fact is that the writer has found that some of the poorest patterning shotguns he ever tested were the old reliable meat-getters of the highest-scoring game bird shooters of the times.

Vernon also was a scattergun enthusiast who argued that the shorter the shot column during its flight, and the closer the pellets together, the greater the number of pellets that are likely to strike a moving target. But I said IT AIN'T NECESSARILY SO,—because the shot column at effective shotgun ranges is travelling at ten to twenty times the speed of the target usually shot at, and if the shot is strung out in a column twice as long, greater error can be made in lead and still have the target fly into the pattern. Even where the lead is such that the target flies into the forward part of the shot column, the longer it takes for the rest of the shot column to catch up, the greater the distance across the shot column the target will travel, and the greater the number of pellets it is likely to intercept. Likewise, the faster a target is moving, the greater the distance it can pass across or through a shot column, giving the remaining shot column a chance to catch up to it. It is all a question of the relative volume of space displaced by the moving target with respect to that of the shot column, while the two are intercepting each other.



Mellie was one to assert that the higher the speed of the shot when it reaches the target, the more deadly the killing effect, but I

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said IT AIN'T NECESSARILY SO,—because the greater speed of the shot relative to the speed of the target allows the shot column to pass by before the target has intercepted so many pellets, and explains the reason why large, fast-flying birds are often killed stone dead with small shot that has relatively low remaining velocity at distances at which it is known that only about one pellet exists per unit of space the size of the bird's body. yet the bird, moving across the long column of small shot, travelling at a closer ratio of speed with respect to the shot, intercepts several pellets that effect a clean kill. The moral to this is that many a chagrined hunter who so cunningly stalks a sitting bird for a sure pot shot at medium range, only makes the feathers fly, and watches the feathers fly away with the meat because a thin pattern lacks the chance to strike a still target with as many pellets as a moving target.



Mellie also was one of those smoothbore artists who claimed that the tighter the choke of the gun, the greater the effective range, due to greater density of shot in the column, but I said IT AIN'T NECESSARILY SO,—because, while the tighter choke usually results in a pattern smaller in diameter, it is also true that the greater the choke, the longer the shot column and the greater the number of deformed pellets caused from passing through the choke. These flat-sided pellets lose velocity more rapidly because of less weight and the retarding vacuum set up while passing through the air, the same as the tail drag on a flat based bullet. And while it is true that most choke guns actually are effective at greater ranges than lesser choke guns, it is sometimes due to the longer shot column giving a target a chance to fly through it farther and intercept more pellets, rather than that there are always more pellets per cubic foot of space occupied by the respective shot columns.

Vernon would opine that it requires closer holding to connect with a bird when using a full choke gun, compared to an open bored gun. But I said IT AIN'T NECESSARILY SO,—because the fact remains that if a full choke shot column at 30 yards occupies a space of 2 feet in diameter by 7 feet long, and a quarter choke shot column at the same distance occupies a space of 3 feet in diameter by 5 feet long, and a bird crossing at right angles to the flight of shot at one-tenth the speed of either shot charge, and the lead has been misjudged so that the bird does not arrive until the short shot column has passed, it could still enter the last 2 feet of the longer choke bore column sufficiently far to intercept several pellets. The moral in this is "don't think because you shoot a more open bored gun you can be more sloppy in your holding than with a full choke, and still kill as many crossing birds under all shooting conditions."

Mellie was one of those shot gun users who advocate that high velocity shells will kill birds at distances directly proportionate to the increase in muzzle velocity, but I said IT AIN'T NECESSARILY SO. While it is true that spherical projectiles have the greatest area of cross section for a given weight of any practical shaped projectile, and therefore destroy more animal tissue (a type of "fluid") during penetration than any other shape projectile, yet because of this characteristic, spherical projectiles pass through the air (also a type of "fluid") with the greatest resistance of any practical shaped projectile of a similar metal. Also, it is true that the resistance of air to an object passing through it is not directly proportionate to the speed of that object, but at certain speeds is several times greater than others.

The speed of sound through air, depending upon temperature and barometric pressure, is around 1100 f.s., and when this speed is approached by an object passing through the air, a sound wave is generated which requires additional energy to produce, and the resistance of the air increases from the 3rd power of the velocity below 970 f.s. to the 5th power of the velocity, until 1230 f.s. is attained, after which it again drops to the 3rd power of the velocity. A load of No. 6 to No. 9 shot, fired from a gun at, say, 1500 f.s., instead of at 1300 f.s., depending upon the size of the shot, at a distance of 50 yards would be travelling at a speed of only 50 to 100 f.s. faster; and while the initial speed was increased by 15 percent, yet at 40 to 50 yards distance, due to relatively greater loss of velocity, widening of the pattern at greater distance, and the likelihood of more deformed pellets from the higher powder pressure used to start the shot faster, would actually increase the range of similar killing power by only about 5 percent or 2½ yards.

The moral of this is that standard skeet and trap loads will kill any game birds as far away and as consistently, if not more so, than higher speed loads in those sizes.

The evenest, densest and most effective patterns are obtained with various sizes of chilled shot when fired from guns of any gauge or choke at muzzle velocities of about 1225 f.s. for No. 9 shot and at 25 f.s. increase in velocity for every size larger shot up to 1500 f.s. for BB's.

Mellie also echoed the sentiment of those shotgun experts who foster the use of *small bore,* light weight shotguns as being more effective for the average shooter than standard weight 12 gauge guns, due to asserted faster handling and lesser recoil, but I said IT AIN'T NECESSARILY SO. It is undeniably true that a load of an ounce and one-eighth of shot, fired from a 12 bore shotgun, is a more effective load at any distance than that same weight of shot fired from any smaller bore, provided the velocities, shot sizes and choke boring are identical because the larger the bore, the shorter the column passing through the barrel, the lesser the pellets in contact with the bore to become deformed, the lesser the pressure to obtain the same velocities, the lesser the shot friction in contact with the barrel, and the more perfect pellets in the shot column after leaving the muzzle; and the heavier shot charges possible from a 12 or larger bore, insure greater relative effectiveness, compared to that of the lesser shot charges of 20 gauge and smaller guns.

It follows that if one is able to fire the same shot charge, or a larger shot charge, from a larger bore gun of the same weight, that he is using a more effective weapon. Now the fact is, that upon going into any large gun store in America and selecting, at random, the most popular pump guns, automatics, and doubles, available at prices under $100.00, that one will find the amazing fact that these guns, similarly equipped, vary less than one-half pound in weight between the 16, 20, and 28 gauges. While it is true that there are available one or two feather-weight models of these guns in the small bores, including the .410 gauge Winchester, at weights of about six and one-quarter pounds, it is *also* a fact that 12 gauge guns are available in standard makes, in this same price range, that weigh only about a half pound more, and special lightweight twelves that weigh under six pounds. I think this completely blows up the argument of the necessity of buying a small bore gun to obtain *minimum weight.*

Now let us consider the situation concerning recoil. Yes, it is true that the larger the bore, the greater the area of gases

(Continued on page 30)

★ ★ ★ CURRENT TOPICS ★ ★ ★



Ross L. Leffler, Pres.

Governor Martin Appoints Commissioners

On July 22 Governor Edward Martin announced the appointment of the following members of the Game Commission, thus providing a quorum for the first time since the expiration of the terms of five previous Commissioners on May 9 at the close of the regular session of the 1943 Legislature:

Ross L. Leffler, McKeesport, Allegheny County, with a service record of 13 years, reappointed for an eight year term.

G. I. Phillips, Alexandria, Huntingdon County, a former Commissioner with 7 months of previous service, named to succeed S. Harold Fisher of Huntingdon, for a term expiring in 1947.

Harold Moltz, Williamsport, Lycoming County, who previously served for four months, appointed to succeed Dr. C. E. Phillips, Sunbury, for a term expiring in 1945.

Dr. H. E. Kilgus, Brockway, Jefferson County, named to succeed A. J. Hanes, St. Marys, for a term of eight years.

Commissioner Phillips, a farmer and business man, has been a hunter and fisherman since childhood, always an ardent conservationist, and especially interested in the Scout movement. He is affiliated with a number of sportsmen's associations, including the Harry's Valley Rod & Gun Club, a very old organization, and the Huntingdon County Game, Fish & Forestry Association ever since its establishment. He is a graduate of Mercersburg Academy and Princeton University. In professional life, he has held a number of important administrative positions. These and others were fully mentioned in the February, 1941, issue of GAME NEWS following his first appointment.

Commissioner Moltz, also a Mercersburg Academy lad who acquired much woods lore from one of his instructors, Archibald Rutledge, has probably spent as much time in the field as most of the Commissioners, past and present. In his own words, he "started with my first gun and bird dog at 13 years of age and there has never been a season since that I have not found some time to shoot." Though long engaged in the automotive business, Mr. Moltz has been active in lumbering all of his life. Naturally he spent a great deal of time in the forests where he had an opportunity to observe game not only in Pennsylvania but in a number of other states. He is a great follower of trap, skeet, field trials, and a breeder of Irish Setters.

Commissioner Kilgus, being a new member, deserves a more lengthy introduction in that he is entering the service for the first time. He has been an enthusiastic hunter and conservationist for many years. His field dogs have long been recognized as among the best. He has also taken a keen interest in the maintenance and operation of the Commission's Training School. Doctor Kilgus received his medical degree from Jefferson Medical College, following which he practiced at St. Marys for many years before entering the business world. He enjoys



Col. Nicholas Biddle

an unusually wide circle of friends among business and professional leaders, and is intimately acquainted with conditions throughout the big north-central region of the Commonwealth.

Commissioner Kilgus is President of the Brockway Clay Company, producers of tile, sewer pipe, and other clay products; President of the Brockway-Snyder Township School Board; member of the National Advisory Committee of the Clay Industry under the OPM; and Co-Chairman of the Jefferson County War Bond Committee.

These appointments bring the membership of the Commission up to six, two short of its full quota. Other Commissioners serving at present include Robert Lamberton of Franklin, and Lieutenant-Colonel Nicholas Biddle, Bethayres, the latter now on active service in the military forces.

At the recent reorganization meeting Mr. Leffler was re-elected President and Mr. Lamberton Vice-President for the year ending next January.

1943 Seasons and Bag Limits

The most liberal hunting regulations in recent years, with bag limits increased especially on rabbits and squirrels, were declared by the Pennsylvania Game Commission on July 28.

The season for small game begins October 30 and closes November 27. The bag limits, with the exception of those on rabbits and squirrels, are the same as last year, namely, 2 a day, 10 a season for ruffed grouse; 5 a day, 15 a season for bobwhite quail; 2 a day, 8 a season for Hungarian partridges, which may be hunted only in Cumberland and Franklin Counties; 1 a season for wild turkeys, which may be hunted in all counties except Clarion, Clearfield, Elk, Forest, Jefferson, McKean, Potter, Warren, and Westmoreland; 2 a day, 12 a season for ringneck pheasants, males only; 5 a day, 25 a season for cottontail rabbits; and 6 a day, 24 a season for squirrels. Last year the daily and season bag for rabbits was only 4 and 20 and for squirrels only 5 and 20.

Hares, or snowshoe rabbits are legal quarry from November 22 through November 27, a period when tracking snow will likely aid the nimrods, with the same bag limit of 2 a day, 6 a season; *whereas grackles, commonly called blackbirds, are now unprotected and may be hunted any time.* The Commission removed protection from grackles because they have been increasing alarmingly and have been causing a lot of crop damage which has in many instances been blamed unjustly on ringneck pheasants. The resolution placing them on the unprotected list became effective on July 28, the day the Commission approved it and the birds may be hunted at any time and in any manner as of that date, with a proper hunting license, of course. In other words they now have the same status as the crow.

This year, as last, the raccoon season includes two zones, the uper zone comprising Bradford, Cameron, Clinton, Elk, Lycoming,



Harold Moltz

★ ★ ★ CURRENT TOPICS ★ ★ ★

McKean, Potter, Sullivan, Susquehanna, Tioga and Wayne counties, with hunting beginning *noon* on October 20; the lower zone including all counties not listed in the upper zone, with hunting beginning 9 A.M. on October 30, both zones closing January 15. The daily limit for an individual or hunting party is 3 a day, 15 a season.

Two weeks were added to the raccoon trapping season this year, the season beginning November 10 and closing January 31, with 7 counties closed *to everyone except bona fide farm occupants who are cultivating the land in those counties,* which include Beaver, Cambria, Dauphin, Lancaster, Lawrence, Northampton and Schuylkill. Traps may not be placed for raccoons before 8 A.M. on the opening date.

As heretofore no hunting of any kind will be permitted before 9 A.M. Eastern War Time, on October 30, the opening day of the small game season, a popular safety precaution for all hunters. However, shooting hours thereafter will be from 8 A.M. to 6 P.M. daily.

The big game program provides for a statewide buck season from November 29 to December 11, and the taking of antlerless deer by residents of Pennsylvania in 8 counties only, namely, Cameron, Clinton, Lycoming, McKean, Potter, Sullivan, Tioga, and Warren from December 13 to 15 inclusive.

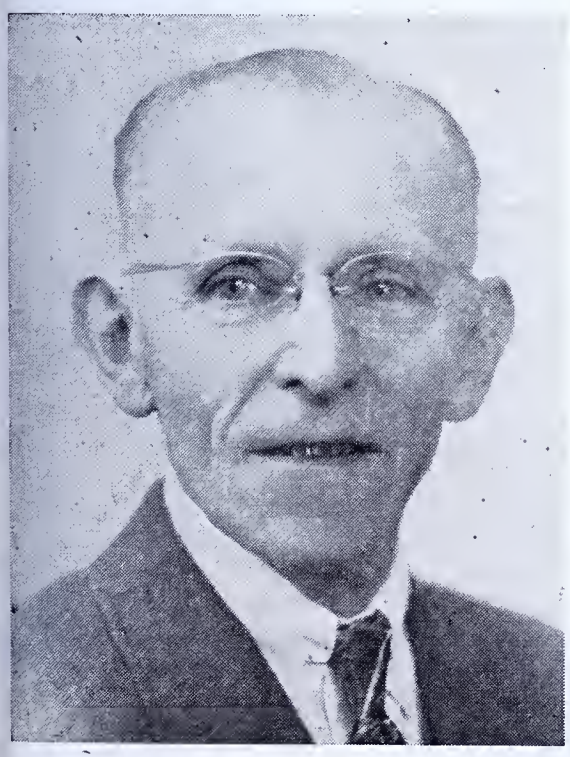
Conditions in these counties, particularly tremendous damage to farm crops, more recently to potato crops, which was protested bitterly by The Potato Grower's Association, necessitated, in the Commission's opinion, the controlled reduction of antlerless deer under special permit costing $1.00, *except for farm occupants who are cultivating the lands and who may hunt such deer without a permit.*

The Commission plans to make available a maximum of five permits for each deer to be removed, in the 8 counties affected, 1,000 of the animals each in Cameron, Clinton, Tioga and Lycoming counties; 3,000 each in McKean and Potter; and 500 each in Sullivan and Warren counties—a total of 11,000. *The Commission will be ready to accept applications for these permits after October 1.* Details concerning the antlerless deer season will appear in the next issue.

Bag limits for male deer are 1 per person and 6 for hunting parties of 6 or more. Only 1 antlerless deer per person may be taken in the 8 counties affected, *and then only by persons who did not kill a lawful antlered deer during the buck season.*

Two more hunting days were added to the bear season over last year, although the bag of 1 per person and 2 for a hunting party of 3 or more remains the same. The season begins November 15 and runs through November 20.

Big game hunters were reminded of the fact that the sale of deerskins is now permitted and that they should make every effort to channel their deerskins into the various industries which are manufacturing gloves and other leather equipment for the armed forces.



Dr. H. E. Kilgus



G. I. Phillips

A more liberal fur-bearing animal season was also declared, two weeks having been added to minks, muskrats, and skunks. The season for minks and skunks begins November 10 and ends January 31, 1944. The season on otters, on which no trapping was permitted last year, also extends from November 10 to January 31 in the ratio of 4 per individual per season *in 7 counties only,* including Lackawanna, Luzerne, Monroe, Pike, Susquehanna, Wayne and Wyoming. Two weeks also were added to the muskrat season which begins December 1 and closes January 31. Opossums remain unprotected until September 30, 1944.

Only 22 counties are open for trapping beavers, from February 15 to February 29,



Robert Lamberton, Vice-Pres.

with a season limit of 3. Last year the entire state was open. The 22 counties include Bradford, Butler, Cameron, Carbon, Columbia, Centre, Clearfield, Elk, Jefferson, Lackawanna, Lycoming, Monroe, Montour, Northumberland, Pike, Snyder, Sullivan, Susquehanna, Tioga, Union, Wayne, and Wyoming. No one person shall set or tend, or in any manner operate, more than 10 traps; tags on traps shall be so placed that they will be above the ice or water-line to facilitate identification without disturbing the traps; *and pelts must be tagged within ten days after the season. Non-residents may not trap beavers.*

For the primary purpose of reducing the fox population in Clarion, Forest, and Warren counties, the Commission authorized the use of snares without springpoles for taking predators in those areas, from Dec. 16 to Mar. 31, 1944.

All trappers and fur dealers are urged to cooperate in the saving of fur-bearing animal fats for the war effort. The Commission would like to see last year's results, when 94 tons were salvaged, doubled if possible. Efforts are being made to secure sufficient gas and oil for dealers to increase their collections, both for fur-bearing animals and deerskins.

The Commission has been assured by Government advices that there will be a limited additional supply of shotgun shells available before the season for allocation primarily to those unfortunate hunters who do not have any, or only a very little, shotgun ammunition. Those who have ample ammunition should share it with less fortunate comrades.

There probably will be no additional ounce ball slug ammunition made available, but there will be some rifle ammunition of the kind permissible for hunting in Pennsylvania.

Seasons and bag limits in summarized form on page 32.

IN MEMORIAM



Adolf Müller

Conservation lost a staunch and active friend through the untimely passing of Adolf Müller, 65 year old former member of the Pennsylvania Game Commission, from March 20, 1924 until January 31, 1935, and prominent Montgomery County sportsman and nurseryman who died late Friday evening, July 30, at his home near Norristown after an illness of several weeks.

He served three years as President of the Commission and during the eleven years of his service the wildlife program went steadily forward. Mr. Müller will always be remembered for his dynamic, forceful personality and his determination to help keep America's wildlife restoration program from becoming contaminated with foreign private ownership concepts as related to hunting. He strongly championed the cause of hunting for the masses instead of only a few.

Known for many years as a vigorous supporter of soil conservation measures, he had made it his lifetime hobby to foster the growth of Pennsylvania dogwood trees, and distributed during his lifetime more than 300,000 seedlings—40,000 of which went to the children of Montgomery County for planting near their homes. It seemed only fitting that he be laid to rest on a beautiful hillside in Valley Forge Park Cemetery, the place where the dogwood grows in profusion.

He was one of the founders of the Pennsylvania Dogwood Association; a director of the Montgomery Trust Co., Norristown; a director of the Norristown Chamber of Commerce; a member of the Free and Accepted Masons, Tall Cedars of Lebanon, Elks, Union League of Philadelphia, Norristown Rotary Club, American and Pennsylvania Associations of Nurserymen, Montgomery County and Pennsylvania State Fish and Game Associations, and the State Horticultural Society.

He was also a member of the Valley Forge and Montgomery County Park Commissions, and a parishioner of St. John's Episcopal Church, Norristown.

For the past 35 years he had been the owner and operator of the well-known DeKalb Nurseries.

He is survived by his wife, Mrs. Rose Walz Müller; a son, Lieutenant Eugene Müller, instructor in the Infantry School at Fort Benning, Ga.; and a daughter, Miss Rose Müller.

NOTES FROM THE FIELD

"While traveling along the highway, Saturday, June 10, between Chinchilla and Justus, I came upon two men who were mowing along the roadside. They had killed a blacksnake just before my arrival. I stopped, looked it over and measured it. It measured 5 feet 6 inches by the tape. I noticed a bulge in the body about 18 inches below the head and upon examination found that the bulge was a young rabbit which the snake had swallowed. The rabbit measured seven inches from end of nose to tail. Some days later I noticed another blacksnake upon the highway which from all appearance was run over by an automobile in the same vicinity and no doubt was the mate to the one the highwaymen previously killed. Perhaps if more blacksnakes were killed it would help our rabbit supply in the future."—Game Protector Francis E. Jenkins, District 5, Division "B".

"There are a great number of robins around this year and I observed nests in the most unusual places—one on top a tree stump approximately five feet from the ground and not over eight feet back from the highway; another right over top of a gas engine on an oil well that is pumped every day."—Game Protector George W. Miller, District 14, Division "F".

"I received a telephone call from residents of the East side of the city regarding a brood of six ducklings and female wood duck. The family came walking down a side street, one half block from one of the main thoroughfares in Erie. Dogs and cats started paying attention to the group so three Boy Scouts attempted to catch them. They were fortunate enough to catch all the little ones, but were unsuccessful in bagging the old one. When I arrived the little ones were sleeping peacefully in a box prepared by the boys. With their help we carried them back to a little swamp, where I think they came from. I feel pretty sure the female found them again."—Game Protector Clair W. Dinger, District 2, Division "F".

"There are quite a few fawns coming out in the fields and along the roads with their mothers, also I am seeing a nice lot of bucks with horns about half grown."—Game Protector Chester S. Seigel, District C-5.

"On Sunday, June 13, a doe and fawn were observed on State Game Lands No. 44; also a mother skunk and four young. June 16 a grouse and six young, barely able to fly, were seen along the road leading into the Training School. On June 25 observed four spring fawns; also grouse and seven young on State Game Lands No. 30. All in all, seven broods of young grouse observed on four different Game Lands during June; average, about 5.5 per brood."—Game Protector W. C. Ryder, District E-10.

"On Monday June 28, on one of our hottest days this year, Mr. Snyder and I patrolled from the Half Way Dam across Refuge No. 522A to Sheesley Run, then up Bear Run Road and Cherry Run past Refuge 522F. In all that distance we didn't find a single person along the road or at their camps, which shows that the sportsmen who own these beautiful cabins are taking the gas ban seriously."—Game Protector Charles H. Shannon, District C-8.

"On June 22 I killed a rattlesnake on State Game Lands No. 51 that was swallowing a gray squirrel that was more than half grown. The snake was about three feet long and had ten rattles."—Game Protector H. D. Carroll, District G-14.

A number of field officers reported seeing many broods of young grouse, and lots of cottontail rabbits during July.

"On the afternoon of June 25, 1943, while I was contacting Mr. W. H. Elliot at his residence in Cumberland Valley Twp., I noticed a crow flying overhead carrying a green snake about 18 inches long. I believe that the crow was taking the snake to its nest as there was plenty of "crow noise" from the direction the bird was flying."—Game Protector Clifford L. Ruth, District D-9.

"Have observed several grouse with young within the past week (July 6). Some of the young were able to fly about two feet while others very easily took to the trees. Most of the broods were small, averaging 4 or 5 birds to the brood.

"Have seen quite a number of fawns, but so far this summer I have not seen a doe with twin fawns."—Game Protector George E. Sprankle, District E-7.

"Rabbits and woodchucks seem to be numerous. I have seen a good many young ones and have also noticed a goodly number of bob-white quail."—Game Protector E. J. Turner, District A-2.

"The beaver that was trapped on the Kelley farm was a large one weighing 62 pounds. Its left front leg was gone to the shoulder but it was still able to dam up a four foot farm drainage ditch."—Game Protector Hugh E. Baker, District C-1.

"While patrolling on State Game Lands 106 I heard a considerable amount of screaming and screeching in the thick woods near me. Upon investigating I found three young Cooper's Hawks and two adults flitting around in the tree tops. I also found what had been their nest in a nearby hemlock tree, and what apparently was their dining room a short distance away. In this area I found what I thought were the bones of two ruffed grouse, two red squirrels, several rabbits and a freshly killed chicken about six weeks of age, which was partly devoured; also numerous pieces of small bones I could not identify, and the remains of a young hawk that apparently had died. One that I killed had a partly digested starling inside of it. The screaming seemed to be the young hawks coaxing their parents for more food."—Game Protector E. J. Turner, Group 2, Division "A".

"Raccoons seem very plentiful. I did not go on any stream that I did not find raccoon tracks. In Cooks Forest the Ranger reports them very plentiful. Almost every night 'coon come into the tourist homes and raid the garbage cans. Mr. Cook, Ranger in the Forest, reports that the other day his wife baked some cinnamon rolls and a raccoon, not finding anything in the garbage can, came in the house through the cellar and into the kitchen. All they found left of the rolls were a few small pieces and 'coon tracks over the floor, table and cabinet."—Game Protector Raymond M. Sickles, District 11, Division "F".

TRAPPING LICENSES ISSUED BY STATES
July 1, 1941 to June 30, 1942

State	Number of Licenses	Fees Paid
Alabama	2,680	$6,700
Arizona	604	100
Arkansas	64,593	260
California	2,149	2,168
Colorado	3,719	7,507
Connecticut	2,512	6,475
Delaware	16,652	.....
Florida	1,749	5,816
Georgia	.....	.....
Idaho	796	4,180
Illinois	19,038	38,364
Indiana	400,896	.....
Iowa	15,003	18,403
Kansas	13,377	13,377
Kentucky	369	369
Louisiana	13,442	26,884
Maine	2,221	15,560
Maryland	80,647	.....
Massachusetts	11,154	12,185
Michigan	27,038	27,038
Minnesota	31,811	41,182
Mississippi	3,661	19,220
Missouri	214,690	.....
Montana	2,087	23,128
Nebraska	3,576	9,298
Nevada	.....	.....
New Hampshire	251	3,364
New Jersey	137,061	.....
New Mexico	572	876
New York	17,762	40,192
North Carolina	2,402	6,187
North Dakota	9,448	9,448
Ohio	614,106	.....
Oklahoma	1,864	2,330
Oregon	2,048	6,518
Pennsylvania	687,153	.....
Rhode Island	10,508	.....
South Carolina	.....	.....
South Dakota	4,619	9,700
Tennessee	3,185	1,593
Texas	17,795	17,795
Utah	821	4,105
Vermont	2,426	3,130
Virginia	2,067	3,605
Washington	2,105	10,525
West Virginia	184,453	.....
Wisconsin	26,670	57,808
Wyoming	75	75
Totals	2,661,855	$455,465

HUNTING-LICENSE AND FEDERAL DUCK-STAMP RETURNS
July 1, 1941 to June 30, 1942

State	Resident	Non-Res.	Total Licenses	Fees Paid by Hunters	Federal Duck Stamps
Alabama	117,179	708	117,887	$189,441.00	6,969
Arizona	35,303	426	35,729	90,879.00	4,348
Arkansas	64,580	2,252	66,832	131,450.00	18,526
California	327,738	1,905	329,643	818,815.00	111,389
Colorado	174,942	2,130	177,072	375,645.00	27,384
Connecticut	40,774	459	41,233	115,528.00	8,434
Delaware	16,596	165	16,761	22,213.00	3,752
Florida	65,542	863	66,405	160,564.00	14,268
Georgia	79,733	940	80,673	150,758.00	3,737
Idaho	108,863	1,068	109,931	120,852.00	23,104
Illinois	341,522	1,310	342,832	531,933.00	84,997
Indiana	400,255	641	400,896	308,684.00	22,071
Iowa	231,826	201	232,027	208,665.00	51,268
Kansas	102,751	321	103,072	104,998.00	37,276
Kentucky	97,130	440	97,570	152,295.00	4,553
Louisiana	150,298	2,299	152,597	160,794.00	45,102
Maine	99,446	6,095	105,541	200,525.00	10,350
Maryland	78,458	2,189	80,647	200,734.00	11,184
Massachusetts	99,367	547	99,914	177,025.00	22,230
Michigan	840,961	5,908	846,869	1,212,617.00	103,798
Minnesota	295,168	497	295,665	307,597.00	121,032
Mississippi	137,631	951	138,582	235,266.00	9,707
Missouri	214,690	703	215,393	309,552.00	36,828
Montana	98,630	702	99,332	161,911.00	30,778
Nebraska	133,717	1,159	134,876	144,078.00	30,134
Nevada	12,031	2,234	14,265	52,463.00	6,656
New Hampshire	58,426	3,062	61,488	97,938.00	3,545
New Jersey	137,061	1,343	138,404	277,993.00	23,388
New Mexico	24,184	1,470	25,654	108,860.00	4,732
New York	608,597	4,314	612,911	838,168.00	50,822
North Carolina	157,482	2,879	160,361	286,586.00	11,086
North Dakota	51,346	279	51,625	83,994.00	28,087
Ohio	613,714	392	614,106	773,681.00	25,855
Oklahoma	111,627	442	112,069	144,014.00	28,769
Oregon	111,984	1,237	113,221	368,095.00	39,484
Pennsylvania	676,349	10,804	687,153	1,515,664.00	30,317
Rhode Island	10,373	135	10,508	23,978.00	3,997
South Carolina	86,064	3,264	89,328	170,580.00	4,180
South Dakota	97,637	11,136	108,773	353,915.00	28,977
Tennessee	131,665	537	132,202	137,373.00	12,326
Texas	136,511	562	137,073	287,072.00	83,593
Utah	76,280	4,200	80,480	294,907.00	18,886
Vermont	46,046	2,155	48,201	78,936.00	3,395
Virginia	151,719	2,110	153,829	203,803.00	10,965
Washington	233,658	106	233,764	384,064.00	70,185
West Virginia	184,062	391	184,453	188,271.00	1,769
Wisconsin	326,807	933	327,740	473,984.00	89,195
Wyoming	33,716	1,529	35,245	160,598.00	8,510
Alaska	11,121	401	11,522	24,218.00	3,911
D. C.	.....	.....	.....	.....	1,348
Hawaii	.....	.....	.....	.....	23
Total	8,441,560	90,794	8,532,354	$13,921,974.00	1,437,220

FIELD NOTES, Continued

"I can sit on my front porch at home and hear the foxes barking in the Letterkenny Depot. They are reported to be very plentiful in the area. Game is also getting plentiful in the same area."—Game Protector D. H. Franklin, District D-12.

"On Saturday evening, June 26, I was called to the Black Forest Inn on the Coudersport Pike. There a bird dog had gotten too close to a rattlesnake and it bit him on the upper lip. By the time I arrived there his face and neck were swollen quite badly. With the help of the local Forest Ranger I took a razor blade and cut the fang marks, letting the wounds bleed good, then we applied some mud on his face over the marks. He certainly looked all in for a while but in a couple of days he was about as good as ever."—Game Protector Robert Sinsabaugh, District C-5.

"I killed two rattlesnakes this month, one of them within turkey propagation area No. 19. I also saw a nice fawn deer lying along the edge of a corn strip in a game food plot. It was almost covered by clover."—Game Protector W. G. Lane, District D-11.

"On June 19, while looking for pre-season woodchuck hunters in the vicinity of Lake Harmony and Mosey Wood Pond, I heard some loud talking in the woods near an abandoned field. Upon investigation, I came upon several campers who had found a young fawn and were about ready to pick it up and take it into their camp.

"I explained to them that this was the wrong thing to do and gave them what I thought was a little educational talk. However, a quite elderly lady who was with the campers told me that she did not believe that I knew what I was talking about, that the fawn had been abandoned by its mother, and that she was going to watch the location and if it starved to death was going to report the matter to the proper authority.

"However, I checked back at a later date and the little old lady told me, using her own words, that she later saw the mother deer and fawn together and from now on 'I am going to stick to my knitting and other things that I know about, and I am so glad we did not bring that fawn into camp.'

"Of all things a Game Protector is called upon to do: I am now invited to speak at some future meeting of a sewing circle of which this little old lady is a member."—Game Protector W. C. Achey, District 12, Division "B".

A BEAR FACT



Photos by D. L. Batcheler

He removed the boards from the crib night after night.

I WAS up in Clinton County this Spring making some photographs of nesting ravens when Miles Reeder, the Game Protector with whom I was staying received a report one evening that a bear had gone on a rampage, causing a great deal of damage to the farm buildings of John Gottshall in the Caldwell area of the county.

We went immediately to investigate and found that the report amounted to more than we bargained for.

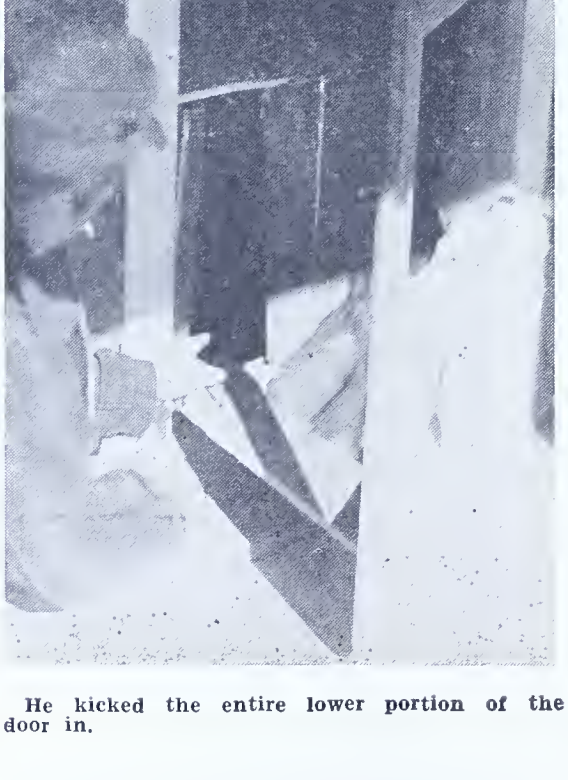
One of the bruins in that district had decided to make repeated trips to a corn crib containing a goodly quantity of last year's harvest, remove the boards from the crib and enjoy a good meal. At first Mr. Gottshall replaced and nailed the boards, but as the bear seemed to be equally adept in removing them he decided to leave the animal have his way about it.

Mr. Gottshall is a chap who likes wildlife and intended to go more than half way with brother bear, but it seems that the animal was very ungrateful and decided to make greater demands of his benefactor, and to that end set out to make a personal call.

On this particular evening the bear made his usual visit to the crib, helped himself to a heaping meal and proceeded past other buildings to Mr. Gottshall's home. Here he hesitated for a moment, inspected the steps to the porch, then made his way to the front entrance. Finding the screen door fastened apparently angered him no end for the screening was removed with one swipe of his big paw. This brought him to the main door where he resorted to a more polished manner and rapped twice, as his claw marks clearly indicate. However, Mr. Gottshall was employed in an industry which caused him to be away that night and his wife and son were sleeping so soundly that they did not hear their visitor's rapping. The bear being somewhat irritated at not being acknowledged, and in a very "unbearing" manner kicked the entire lower portion of the door in and left.

Mr. Gottshall, returning from work, was much surprised and somewhat irritated over the bear's attitude. The next time they met, Mr. Bruin was unable to explain his actions so was compelled to suffer the consequences which were indeed severe.

The accompanying photographs will bear me out in this report.—Delbert Batcheler, Division of Public Information.



He kicked the entire lower portion of the door in.

FIELD NOTES, Continued

"I believe that we have always assumed that it was necessary, in order to raise pheasant chicks, to have either a cluck or artificial heat to do it successfully. Harry Miller, at the Berks County Prison, is doing just this without either. June 20 he was given 5 pheasant chicks that had been found while mowing on the Prison Farm. June 22 I delivered 17 pheasant chicks to him. These chicks had been found under a scale at a coal yard in Laureldale. There was no sign of the mother around and it is believed that they fell through an opening of the scale. Mr. Miller put the chicks in a wire pen about 2 x 3 x 5 feet along with a small cardboard box. The chicks go into this box at night, after which newspaper is tied around the box. The pen is moved around on the lawn in front of the chicken house and the chicks run around in it all day. These birds have survived in spite of the intense heat which we have had since June 22 and the cold weather of last week. The last time that I saw them, on July 3, at which time he still had all of them, they seemed very healthy and full of life. I believe that he has been feeding them on some chick feed which he has been using for his baby chickens. He also has four other pheasant chicks running around which have been raised by a New Hampshire Red cluck."—Game Protector Joseph A. Leiendecker, Division "A".

"A fox made a raid on a nearby chicken house killing 55 young chickens in one night. Parts of some 20 were scattered over the adjacent field. A trap was set and the following morning a large female gray fox was caught. Two mornings later a large male red fox found his way to the trap. On another occasion where foxes were robbing quail nests, a trap was set and an old male gray was promptly picked up. Foxes in this section are very much on the increase and I predict that it will take considerable trapping to bring them under control."—Game Protector Paul L. Failor, District B-10.

"When the brush crew cut the right-of-way through Cumberland Valley Twp. for the 24-inch pipe line, I was called to the Ross Brown Farm as they found a grouse nest with 15 eggs. They asked me to take the eggs somewhere and have them hatched. I explained that the grouse could not be raised after hatching and the best thing was to leave them there and take a chance that the hen would return after the men quit work. She did, and was not disturbed much from then on. Mr. Brown checked upon several occasions to see if the eggs would hatch and found the hen on the nest. On Sunday about two weeks later he checked again, and observing from a distance saw a large pilot snake in the nest had swallowed thirteen of fifteen eggs. That snake will not destroy any more grouse nests."—Game Protector E. M. Woodward, District 10, Division "D".

Weight Fixes Gauge of Gun

The designation of shotgun gauges dates back to the days of muzzle-loading single-ball guns. The number of "balls to the pound" was the determining factor. If 12 balls of a size properly fitting a shotgun's bore were required to make a pound that gun was called 12-gauge; 16 balls a 16-gauge; 20 balls a 20-gauge.

However, if shotgun gauges were determined by calibers or bore measurements, as with rifles, the 12-gauge would be known as the .72, 16-gauge as the .66, 20-gauge as the .61 and 28-gauge as the .55. These are the measurements with the smaller fractions dropped.

But the 410-gauge shotgun is really a .410-caliber—almost. The slight variations in manufacture make it more commonly known as the .410 bore.

Shells For Rifle Clubs

War Production Board order L-286 dated May 1, 1943 authorizes the distribution of ammunition through normal jobber-dealer channels and limits sales on a quarterly allotment basis to certain groups specifically authorized by W.P.B. to make such purchases.

Because the quantity of ammunition required by rifle clubs for preinduction training varies according to the number of students under instruction, it was impractical to limit rifle clubs to established quarterly allotments. That is why W.P.B. order L-286 makes no mention of such clubs.

Club officers and friends of the National Rifle Association will be glad to know that through the N.R.A.'s efforts a special authorization for rifle clubs has been made by the War Production Board.

Did Bear Eat Man?

Woman Seeks News of Former Spouse in Virginia

SUFFOLK, Va. (AP)—Things were fairly peaceful around the office of Sheriff Frank Culpeper until he opened a letter from Chicago and began to read:

"Kind and respected sir:

"I see in a paper that a man named John Sipes was attacked and et up by a bare whose cubs he was trying to get. When the she bare came up and stopped him by eating him up in the woods near your town. What I want to know is did it kill him or was he onlie partlie et up and is he from this place and all about the bare. I don't know but what he is a distant husband of mine. My first husband was by that name and I suppose he was killed in the war, but the name of the man the bare et being the same I thot it might be him after all and I ought to know if he was killed by the bare or in the war for I have been married twice since then and there ought to be divorce papers got out by me or him if the bare did not eat him all up.

"If it is him you will know it by him having six toes on the left foot. He also sings bass and has a spread eagle tatoo on his right arm which you will know him by if the bare ain't et up these sines of being him.—*N. Y. Times.*



Floyd Oswald, Frank Christman, Arthur Hausman, Harold Haney, Wilmer Kressley and Forrest Wessner, all from Lehigh County, with black bear bagged by the latter last season.

FIELD NOTES, Continued

"Received a beaver damage complaint and upon making an investigation, found that French Creek had backed water over some low lands and the beaver had eaten the tops out of some of the peach trees."—Game Protector W. T. Campbell, District 10, Division "F".

The Huntingdon County Game, Fish and Forestry Association last year had two acres of ground under cultivation at Shenecoy Field. This year the area is offered to club members for victory gardens.



Photo by John B. Cliff

Usually it is the visiting hunters who bring in the trophies, but Floyd C. Zerbe, 18 year old Kane nimrod, changed the picture last season. He brought in the only locally killed bear—and the biggest reported at that place.

Book Review

At long last the fundamental principles upon which the foundation of conservation education is formed have been gathered together and simply explained in one volume by some of the nation's leading individuals in their particular field. This volume entitled "The Foundations of Conservation Education", published by the National Wildlife Federation, covers the following subjects: Conservation, Liberty, and Economics by Wesley C. Mitchell; Conservation of Soil as a Natural Resource by W. C. Lowdermilk; The ABC of Conservation by Paul B. Sears; The Pitfalls of Conservation by Arthur N. Pack; The Role of Applied Science in Conservation and Its Relation to Wildlife by W. W. Horner and Richard W. Horner and Biology As the Foundation of Conservation Education by Henry B. Ward.

The book, which contains 242 pages, is well illustrated, but the most pleasing thing about it is, as I said before, that it is simply and interestingly presented. There are a lot of lessons to be learned in every chapter, lessons for old and young alike.

If ever there was a good talking point for encouraging more conservation education in the public schools this is it. I would especially recommend it for students of agriculture, forestry and wildlife, and especially teachers.

Jefferson City, Mo.—The hunter who kills a cottontail in Knox County gets more meat than one who bags a rabbit in Miller County—in fact, 33 1/3 per cent more if average sized bunnies are killed in both instances.

The reason, according to investigators of the Conservation Commission and the Missouri Cooperative Wildlife Research Unit at Columbia, is the more fertile soil of the northern Missouri area.

☆ ☆ WITH THOSE IN THE SERVICE ☆ ☆

"I'm still in the Infantry although no longer the one you mention, as you'll notice by my address—Co. A, 898th Air Base Security Battalion. You'll have to guess again though, as I'm not where you believe me to be.

"Unfortunately, I've not had the opportunity to do any hunting or fishing, although I do want to take the opportunity as soon as it suits. I have a good friend here with me who hails from Pymatuning area, and has been with Burt a lot. So he and I spin yarns quite a bit when we get the chance. We want to take a little hunting trip. This friend is rather well acquainted with wildlife, and refers to me the "new" birds or animals he sees and can't identify. From his good descriptions I can get them classified as far as families but beyond that I can't without seeing them in this strange land. I'm sure I saw Mourning Doves yesterday. I see Bitterns often, Kingfishers—the red breasted—various species of Swallows. I sort of keep track in my mind the date I see a familiar variety first here. (I keep all my diaries in my head.) I figure that someday it might add a bit to my notions if I recall seeing such and such a bird here around such a date."—Corporal Martin Shaffer, Co. A, 898th A. B. Security Battalion, A.P.O. 870, c/o Postmaster, New York, New York.

NOTE: In Corporal Shaffer's family there are five boys and four girls. All of the five boys are in the service and two of the four girls are in the F. B. I. What a reunion they will have when the war's over.

"Was glad that you included me on your list for the Game Commission sheet. Sure I like to hear from you all.

"While I have been here in the land of lakes and good hunting I have had none of it. The army doesn't provide much time for a beginner to indulge himself. Maybe tho one of these days I shall take off and try to snare a fish or two.

"It is nice to get the GAME NEWS, too. Somehow they have my address and it comes forward promptly. Is Leo still the Engineer in charge?

"I was of course depressed to read of the death of John Ross. Somehow he always typified to me at least the true spirit of the Pennsylvania Game Commission personnel. He loved his work and did it diligently and faithfully. And so many of you have done likewise. I shall always know why Pennsylvania gained and maintained its place as a sportsmen's paradise for having worked with you for a short time.

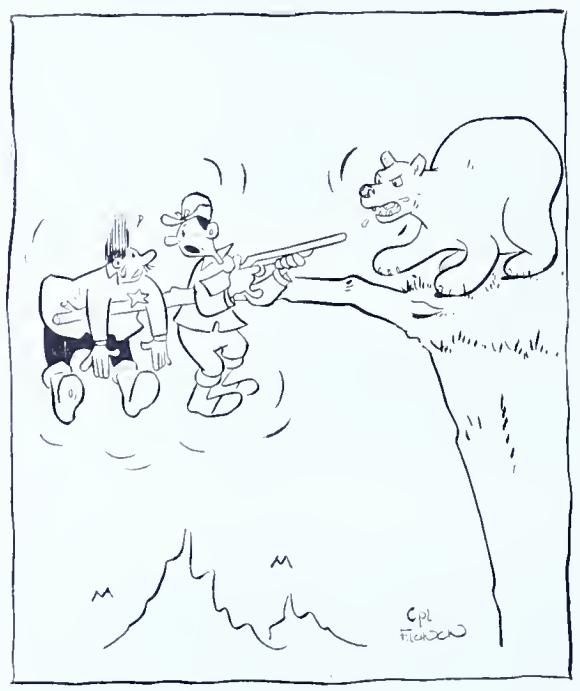
"Haven't gotten acquainted with any of the Game crowd here but hope someday maybe to meet up with them. They appear to be having some internal difficulties, caused by politicalitis.

"Keep up your good work. Say hello to all that I know."—Captain William H. Stewart, Air Corps, Truax Field, Madison, Wisconsin.

Somewhere in England:—"Thanks for the photo of George Kohler and the cubs; had to look twice to make sure which were the cubs. Old George has gained some weight, hasn't he? It has been the reverse with me. I have lost some and am now nearing the mark where I should have been for some years.

"I am now getting the GAME NEWS; received May issue the other day. Thanks for same also. It sure is good to read up on the Commission's activities and the field and service men's notes.

"Located a crow's nest the other week and it reminded me of the day and night you, Pat Plasterer and myself went crow hunting. Remember we killed so many crows you got so interested in picking up the kill that you laid Pat's double barrel gun down and we tramped it into the mud. You had those big G. I. boots on and you couldn't lift your feet and you made so much noise in the dry leaves you scared all the crows away. Well this is enough ribbing for one time. Will write more later. Write when my turn comes."—Corporal A. C. Ganster, Co. C, 852nd Engr. Avn. Bn., A.P.O. 875, c/o Postmaster, New York, New York.



"Are you sure you won't have me arrested for shooting bear out of season?"

The office just had a big surprise the other day when Bombardier Nick Ruha stopped in to say hello. He was home on furlough and who knows but that by this time he may be on his road out of the country.

Had a letter from Captain "Doc" George M. Sutton the other day asking about a red-phased or red-ruffed grouse he left with someone in the Commission when he was here in 1929. Any of you old timers happen to be the recipient of it? He wants to locate the bird because it has to do with an important record.

"What's the matter with the writin' hands in the Commission???? Haven't received a letter from any of the gang in months.

"Received May's GAME NEWS last week. Nice job on the snapshot. Funny thing about that—one of the boys whom I haven't seen, or heard about, for almost two years saw the picture and wrote me about it. He was with me in the 3rd Cavalry and is now (or rather was then) at a California field awaiting his bomber's wings. He's a Philadelphia boy and his father always sends him the GAME NEWS.

"Nothing new from this end of the world. Really working at a hell-for-leather tempo."—S/Sgt. Robert D. McDowell, Hq. Det. SOS, A.P.O. 625, c/o Postmaster, Miami, Florida.

"It has been my honest intention to write this letter for so many weeks that it is now starting to bother my conscience. Each time I read the letters from the other fellows in the service that you publish in the GAME NEWS, I get sort of a guilty feeling for not having written sooner.

"They still have me teaching school and I am enjoying it a lot and, I think, learning a great deal that will be of real value in later life. This school system and the manner in which it is operated reminds me in many ways of our own training school except, of course, it is on a much larger scale. We have thirteen different courses in operation at the present time under the eight departments of the school and plans are under way to increase the number of courses to fifteen or sixteen. When we are not teaching a class it keeps us busy making up new lesson plans or rewriting lecture material so in doing that there are not many free hours during the day. As an 'added attraction' I am also Supply Officer for our department.

"The GAME NEWS has been getting here regularly and I really do appreciate it very much. I especially enjoy the letters from our other fellows in camps here at home and abroad. I wish in many ways I could be over in England or Africa with them for it seems to me I would be doing more good than in the present assignment.

"Since we have a chance to do a little pleasure driving in this part of the country, I have been seeing some of Michigan and making good use of the lakes for swimming. This Friday, June 25, the bass season opens and from all I can gather it should be a good year. I'll be able to give you a more definite answer to that at a later date.

"Game conditions and populations seem to be very good in this part of Michigan for I see numerous quail and rabbits and in some sections have seen plenty of ringneck pheasants. I talked with one of the conservation officers in Jackson some weeks ago and he was under the impression that the severe winter might have killed off a number of the quail but I don't believe it had much effect on them. If it did—they must have had an extra heavy population before.

"Will you please give all the folks in the office my best regards, Leo, and tell them I said 'hello'. I am hoping to get a leave in late August and if successful I will pay you a visit at that time. Many thanks for sending the GAME NEWS and I hope they keep comin'."—Lt. R. S. Lichtenberger, Department of Criminal Investigation, Provost Marshal General's School, Fort Custer, Michigan.



Geese on the refuge.

My Dear People:—

Now, at the age of seventy-eight years, I can look back and intelligently compare the present with the past. Little did I realize, thirty-nine years ago when, in 1904, my bird sanctuary was founded, the value my idea was to have along the lines of scientific discovery, education, and conservation. Little did I think that I would one day sit in my house and see four hundred automobiles parked at one time alongside the highway running by the door; that I would live to see thirteen thousand persons visit my place in one day; or that the mailman would bring me several hundred letters in one mail and ten thousand goodwill messages on a birthday anniversary. All these things have come to pass.

On one side of my house are ponds where thousands of birds and wildfowl come to me for food and protection. On the opposite side are grounds where boys and girls, Boy Scouts and Girl Guides, from hundreds of miles distant flock to that community park of mine which has earned for my home the description of "a sanctuary for Birds and Boys."

The whole enterprise has not only grown far beyond my expectations, but far beyond my ability to support it. It now requires an annual fund of $15,000.00 for maintenance expenses. Therefore I am compelled to make this appeal to my friends for their help in carrying on the good work. This year, in addition to the annual $15,000.00 there is $5,250.00 of a deficit from last year. At a time when billions are being spent on a war of hate and destruction in Europe, surely there is $20,000.00 left in North America for the cause of love and construction! All cheques for this purpose should just be made to JACK MINER, and mailed to me at Kingsville, Ontario. All such contributions are exempt from income tax. Besides your own personal donation perhaps there is some philanthropic, educational or humanitarian trust with which you are connected that you could influence in my behalf; some outdoor organization, or some friend, whom you could approach for the benefit of the Jack Miner Bird Sanctuary, and have a cheque from them sent at this time of crisis to help me meet what is a real and pressing emergency.

Let me take this opportunity of thanking you, in this general but most sincere way, for what you have done in the past and for what I feel sure you will do at this present time.

Your grateful friend,
JACK MINER.

★ ★ ★ ★ ★



Jack Miner

★ ★ ★ ★ ★



Some visitors to the sanctuary.

Plans for Future Land Management



Photo C. G. Krieble
Honkers flying over the Pymatuning Waterfowl Refuge.



Photo L. A. Luttringer
On larger tracts of State Game Lands, particularly in agricultural sections, the areas are broken up with worm fences which are subsequently planted to evergreens and food producing trees, shrubs and berry bushes.



Photo W. L. R. Drake
Game Land Technician looking over an area planted to Pennsylvania Game Food Plot Mixture. As much as 10 tons have been planted annually by Commission employees and interested sportsmen.

(Continued from page 5)

plished only when fire-fighters may be transported to the scene of the fire immediately. For this reason, continuous maintenance of all roads is doubly important.

Most of our field men are also playing an active part in the Forest Fire Fighter Service, one of the units of the Civilian Defense Organization set up to obtain volunteers to augment the services of the recognized protective organizations (either State or Federal) charged with the important task of forest fire prevention, detection and suppression.

Our program further includes the sale of all mature and over-mature timber which can be used in the war effort. Such sales are advertised in the nawspapers and bids taken. Timber so sold is converted into many products, including lumber, mine timbers, pulp-wood, lagging, etc. Smaller sales of dead and down timber for fire wood are also made.

In any wildlife program there is an acute need for a winter feeding schedule. Rather than purchase the grain required each year, and in order to divert crops raised by farmers into human consumption channels, we plant hundreds of acres of State Game Lands to corn, soy beans, buckwheat, clover, Pennsylvania Mixture, etc., to supply our needs in this respect. At the same time these plantings act as "buffer crops" and tend to save the crops of nearby farmers from much damage by wildlife species.

Reforestation is another phase of the program which cannot be overlooked, even in war times. Due to lack of labor this program has been curtailed somewhat, but many thousands of evergreen and deciduous trees and shrubs are planted on the Game Lands each year. These will grow into future timber crops, and while growing will produce food and cover for wildlife.

Naturally, our development work along sound management principles has improved the environment for all forms of wildlife. This means food and cover are more plentiful, and conditions for breeding more ideal. Because of this, increasing numbers of game birds and animals are available to the hunters. The thousands of tons of such meat obtained by sportsmen each year releases the same amounts of beef, pork, etc., for the use of the armed forces.

Then, too, many hides from deer are made into gloves and jackets for the men in the service. Furs taken from the animals trapped are used to line clothing used by our boys located in Arctic regions. and the fats obtained from the carcasses of many wild animals are utilized in the manufacture of explosives.

These facts alone show the importance of sound management practices, and their immediate value to our war effort.

During the war we are making every effort to hold the ground gained in this phase of the Commission's program. We are also making plans for a coordinated future program of development and management that can be put into practice quickly after a successful peace has been attained, thereby furnishing employment for thousands of workers who will then need it.

How to Cook a Grouse

(Continued from page 7)

Park, for they too took on a sophistication that was unbelievable. Foolish moves if any, were strictly confined to young birds. The old ones roared off with an eclat that was positively thrilling. Even now I can see the clumps of ferns bowing to the wind from whirring pinions.

Grouse in practically all of these United States are no longer the witless dupes that typified the birds in days long passed; the easy game of any rustic who could hold a gun.

That the birds are as plentiful as they are is doubtlessly due to their matchless power of adaptation; the wary, resourceful rocket that goes crashing off through what seems like impenetrable cover is no more like its naive ancestor than is the barnyard turkey like its wild counterpart. When a hunter now returns with a bag of two you can rest assured that he has earned it.

It is claimed by many that tossing a dryfly is the highest attainment of the outdoorsman. Well, I contend that grouse shooting in the covers of our Commonwealth requires every bit as much skill and finesse and judgment as is entailed in the art of successfully presenting a dryfly to a wary brown. What is more, there is this to say about grouse shooting, the most important equipment is not contained in an array of metal boxes. It is stored away in your head.

To have a grouse for the pot is no longer a matter of being able to swing a gun even though the birds are plentiful. One must be acquainted with most of the tricks and be a good shot in the bargain.

The beginner gets a considerable number of his birds by snap shooting, i.e. by blazing away at every bird he flushes even though he may not see it. I daresay that a greater number of even skilled hunters than most of us suspect fire at the sound rather than the sight of a flushed bird. Snap shooting is no reflection on the hunter. If he can anticipate the direction that his quarry is going to take, then he should by all means chance a shot. Obviously, snap shooting is most successful where the birds are fairly plentiful and not too wild, i.e. get up too far ahead of the hunter.

How are your reflexes? How long does it take you to get underway after a bird gets up? Do you stand there with mouth agape watching your game go swirling off through the cover or can you respond with split-second promptness? If you are slow on the draw, then grouse shooting is not your dish. If you can't be constantly on the alert for the unexpected, and I might add that practically all grouse behavior is unexpected, then I'd go in for something more relaxing and less strenuous.

Yes, the first lesson and the most important, too, is to be constantly on the alert. Never lower your guard or relax for even an instant if you are looking for an even break.

Imagine my chagrin last fall when I missed an easy chance at a bird popping out of an old cellar hole. The place was overgrown but still it was a cellar hole, and I relaxed my vigilance to take a look. Sure enough, a big cock bird nearly knocked me off my feet as he went hurtling off from under my very nose. By the time I recovered my composure and got the gun ready, he was lost in the forest gloom as my ears resounded with the rapidly fading roar of his whirring wings.

In hunting the "civilized" grouse it is quite necessary for the hunter to formulate his plans so as to reserve for himself as many of the breaks as possible. For example, you can almost take it for granted that when a bird goes up it is going to hurtle off through the thickest cover. Therefore, when approaching birdy territory, maneuver about until the best possible position for unobstructed shooting is attained. One must anticipate the game's every move, if he can.

On the other hand, all too frequently the actions of some birds are unpredictable. Here's what I mean. Once we put up a grouse at the edge of a dense woodland. Did he dive into his beloved cover? He most assuredly did not. The speeding bird turned rudder and hightailed it across an open field. By the time my companion and I recovered our wits the bird was safe in a copse of alders into which he had dived.

Even with all the breaks in your favor no shot is an easy one. One should bear in mind that when a grouse flushes it rises at a rapid rate, so that unless you hold well above it you will completely miss or, what is worse, hit it in an invulnerable spot.

The most difficult shot of all is when the speedsters go careening across in front of you. If conditions permit, hold your fire until the bird begins quartering. Otherwise, take a chance by aiming slightly above and in front of the region of the crop—if you can. The next time you examine a grouse note how much of its long stern consists of feathers. Even if you succeed in shearing off its abdomen the chances are 100 to one that you'll lose your bird.



Note how much of a grouse's long stern consists of feathers; a factor responsible for much wasted ammunition and lost birds.

The amount of lead that a grouse can carry is matched only by its amazing vitality. I have seen a completely disemboweled bird fly for more than a hundred yards before setting its wings in death. On another occasion I flushed and brought down a fine cock bird that had both legs blown off at the first joint by another hunter. The stumps were healed and calloused and its take-off did not in the least betray its tremendous handicap.

If you are one of those who is rattled into inactivity nearly every time a grouse flushes you are troubled by an affliction akin to buck fever. This mountainous handicap can be frequently corrected by walking through well stocked covers with an empty gun. When a bird goes up force yourself to go through the mechanics of firing. At the same time attempt to coolly observe the bird's flight from the moment it leaves the ground until it disappears. The whole idea, of course, is to accustom oneself to the shock of the roaring getaway and the usually bewildering flight. It is really surprising how quickly a jumpy hunter can be transformed into one who is rock-steady and quicker than a rattlesnake's strike.

Good grouse shots are as rare as good grouse dogs, and the latter are rare indeed. If one takes his shots as they come, there are very few who can pocket a bird for every four empty shells. Scores can be augmented by the hunter making a thorough study of the birds' haunts and food habits in the localities he hunts.

Yes, Old Doc Beal experienced a suggestion of the real shooting that a thoroughly sophisticated partridge can give. What a kick he would derive hunting the incomparable bird which we know today, especially if that hunting were done in the rocky terrain of our mountain covers. I'm certain that the old sportsman would completely forsake his recipe for cooking a grouse for the more practical directions on how to bag one.

MR. HUNTER! SAVE YOUR DEERSKIN THIS YEAR. YOU MAY SELL IT WITHIN 90 DAYS AFTER THE CLOSE OF THE SEASON. PLEASE PLACE IT IN THE CHANNELS OF TRADE. UNCLE SAM NEEDS ALL HE CAN GET TO MAKE GLOVES FOR THE ARMED FORCES.



More and Better Walnuts

(Continued from page 15)

The autumn social rating should be gauged by heaviness of walnut stains on the hands, as walnut stain should be the earmark of good citizenship.

3. Let them dry a few weeks in the shade protected from squirrels, rodents, or sisters who love to make nut goodies.

4. Stratify—use a cigar box or one larger, put a layer of sand in the bottom then a layer of nuts, alternate until box is full.

5. Sink in garden-top with ground level. Cover with fine wire to prevent rats or squirrels from stealing.

6. In early spring bring nuts out—go along fence, near streams, hillsides, open spots in the wood lot. Make holes two inches deep with a blunt stick, forty feet apart, drop in nut, then tramp with heel.

Do this year after year in the Boy Scout's Nut Planting Week. Replant missers in previous years plantings. Make a record of how young trees are doing, note age they bear and quality of nuts. When they're extra fine, report to the Pennsylvania Nut Growers' Association, the Director of Rural Scouting, or your farm paper. And, as young trees bear better nuts than ever grew before, plant them.

Fur Trapping Methods

(Continued from page 11)

Mound Set: This set is particularly good because it is dog-proof and skunk-proof and that is an advantage in trapping for foxes. A mound of earth, an ant-hill or anything similar, about a foot and a half to three feet in height is selected. An excavation to fit the trap is made on the highest point of the mound. A steel or wood stake may be used here again, or preferably a steel grapple made of heavy wire. The grapple, attached to the chain of the trap, is worked down into the earth below the trap excavation, then the chain is fitted into the excavation and then the trap. The covering over all is again, a waxed paper, or moss or cotton ball insertion under the pan, and a half inch of fine earth; and on completion of the job the high point on the mound should appear as nearly like it did before it had been disturbed. To complete the set, a bait—such as a dead chicken, duck or other bird, a home-raised rabbit or a part of such a rabbit, a lung or an otherwise useless part of a cow, sheep, hog or horse—and this is pinned down to the ground about twelve or fifteen feet away from the mound. The construction of this set is based on the principle that a fox, possessing the weakness of curiosity, has the habit of getting up on the nearest accessible high point to view a tempting bait. A dog or any other of the fur-bearers do not possess such a trait.

Water Set: A trapper should stand in the water while making this set. In places frequented by foxes a shallow spring is selected, preferably at a point where it emerges from the ground. If the water is too deep the spring can be made shallow by building it up with flat stones. A stream larger than a spring will answer for the purpose just as well if a suitable spring is not within easy reach. The ground immediately to the selected spot should be level or nearly on a level with the water itself. About twelve inches out in the water from the flattest surface of ground a stone is imbedded in such a way so that a part of the same stone is about an inch above the level of the water. Between that stone and the ground a trap, fastened to a steel grapple or a wood clog, is placed at the middle point. That should be about six inches away from the ground, and six inches away from the stone. The foundation upon which the trap is to be set should be built up of flat stones, if necessary, so that when the trap is opened and set, it will be just flush with the water level; the grapple or wood clog is buried within the water. Then a piece of sod a trifle larger than the pan of the trap is

(Continued on Next Page)

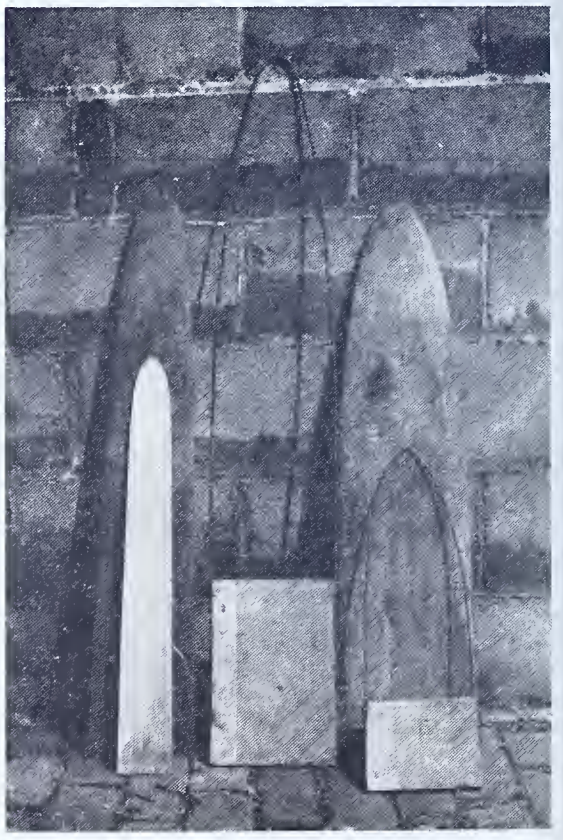
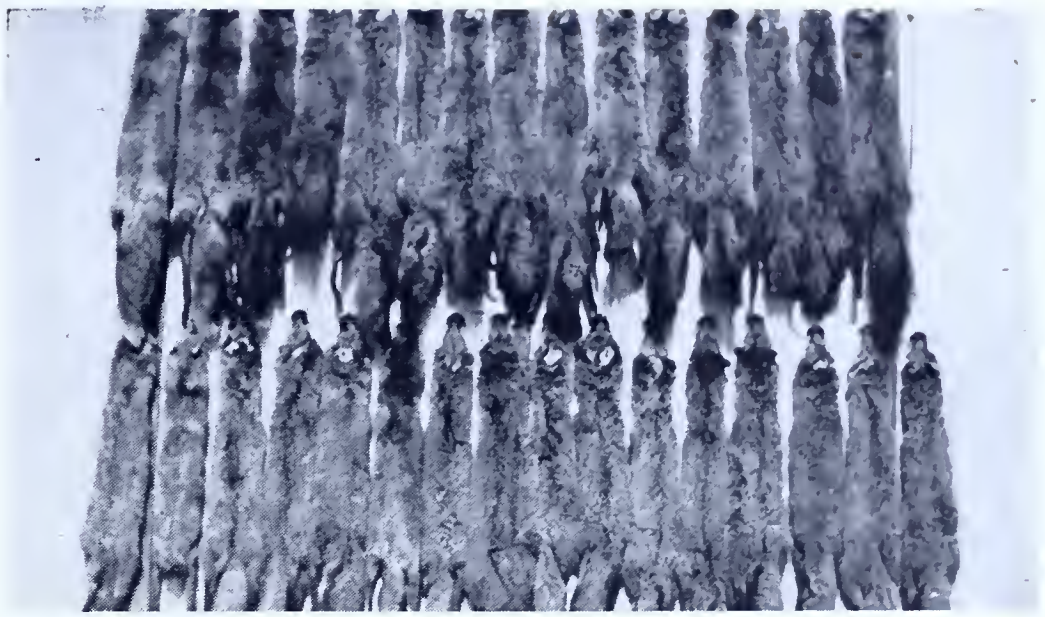


Photo by S. V. Sedlak
Home-made fur stretchers showing from left to right: fox, mink, raccoon and muskrat.

procured and fitted snugly upon the pan; no other covering is required. To complete the set, place a small piece of fresh meat—domestic fowl or rabbit or something similar—upon the stone that protrudes out of the water; cover that bait partly with a water-soaked leaf or a piece of moss and a little mud, leaving the part nearest to the trap exposed somewhat. The design of this set is drawn up on the theory that a fox does not like to get its feet wet and the sod on the pan of the opened trap is intended as a place for the fox to step in its endeavor to reach the nice piece of fresh meat further out on the stone.

The grapple should be used only in places that are wooded well enough to afford good grappling possibilities; it should never be used in connection with any set where the terrain is too open.

(Continued next month)



Red and gray foxes killed by a group of Dauphin County fox hunters, including Leroy E. Koons, William Cramer, Walter Schell, Ralph R. Rode, Carl B. Shelley, Dist. Att'y.; Lewis S. Kunkel, Ass't. Dist. Att'y.; Leo A. Werner, Harrisburg Postmaster, and Lawrence A. Hetrick. All told, 37 were taken, using 10 to 15 fox hounds but only 31 are shown in the photo.

Foxes Without Dogs

(Continued from page 14)

We followed two tracks of grays across this mountain on another morning; and onward across the next valley and the next hill. They turned eastward in a second valley; and we left them at the end of about five miles. On our way home, only a mile from that point, we picked up two other grays' tracks, since they were leading about in our direction. These tracks took us across the mountain again and down into our home valley, where they also turned eastward, in the opposite direction from our feed trough and comfortable beds.

The ridges leading up to the Allegheny here are four miles long; and one-fourth of the land is in cleared fields where you can see game considerable distances. We reasoned that if we could get one of the red foxes started in that direction, and follow him slowly, he might play along in front of us near enough to be seen.

We tried that plan. With deer rifles this time, we picked up a large track, and one of us kept off to the side toward the mountain, to give him a start in the opposite direction if possible when he jumped. Sure enough, the plan worked that way. Our fox track materialized into a fox, in about two miles, and headed down across the hills.

One of us tried to keep ahead on the high points of the fields and open hillside from then on. It was hard guessing which way our smart quarry would turn next. Repeatedly we had to come back and climb the opposite hill. He worked back and forth across five ridges for a distance of about seven miles, the track crumbling-fresh under our eyes all the time, and often the snow was patted down where he sat and waited on us, watching us approach perhaps. At five o'clock that evening, just as we came down over a wooded ridge, we saw him about 150 yards ahead in a small clearing up on the next hill, sitting on a slender stump.

With all that weary climbing behind us, you can imagine what care we used in estimating the distance, and drawing beads on our fox. Did we get him? Well, we shot from sitting positions, and pulled down hard on the rifle slings, and took up on the triggers to the last ounce. Then we counted three, and it seemed to me only my rifle cracked—but Bruce fired too. We nearly ruined the hide. One bullet went through the shoulders, the other through the belly.

With these experiences behind us, we now judged that it should be possible to shoot red foxes "by hand." The way to do it would be to use two watchers, posted in the sure-fire saddle crossings. They would have to stay all day, and the man on the track would have to keep patiently after his one fox until either he saw it loafing ahead, or it came to a watcher.

Gray foxes offer a different problem. They stick more closely to the thickets; and our idea of getting them would be to use shotguns, and outsmart them in some five-acre area of brush.



"I brought it along just in case I run into a bear."



Members of St. Marys Camp Association. The members carried on an extensive winter feeding program last season.

Twelve is not a dozen—twelve is a crowd—so a mother cottontail found on Auxiliary Refuge No. 99 in Berks County in May figures. Don Holt found the nest which contained twelve baby cottontails. Game Protector Joseph A. Leiendecker counted them on May 15, at which time they were approximately 14 days old. Eleven were about the same size and one was a runt. E. J. Turner, Land Management Protector, first reported the incident and later observed the nest on May 17 but did not count them at that time because he did not wish to disturb them so soon after Protector Leiendecker counted them.

The nest was located against the trunk of a large cedar tree on the lawn behind Holt's house. Its only cover was lawn which is kept mowed, but there were several little bunches of dry grass over the top. Mr. Holt said the mother is an unusually large specimen and is living inside the woodshed at the present time. He noticed her carrying some nesting material lately, however, and believes she is going to have another litter soon.

"It Ain't Necessarily So,..." *(Continued from page 17)*

coming into contact with the atmosphere, and the greater the *apparent* recoil from muzzle blast, but this is far from the whole story concerning recoil. Recoil is produced by two causes and may be reduced by the application of several principles. In the first place, little more than half of the recoil generated in a shotgun comes from the powder moving the relatively lighter mass of shot in the one direction, and the heavier mass of the gun in the opposite direction. The rest of the recoil is generated by the additional backward thrust given the gun when the gases, confined under high pressure behind the shot charge, come into contact with the air, and varies somewhat at different barometric pressures and temperatures. Now these two forces, acting together, produce *total recoil.*

With the ratio of weight of gun to the weight of shot, at about 100 to 1 in one instance and 50 to 1 in another instance, using the same load, the total recoil produced would be the same in either gun, but the free or *apparent* recoil to the shooter would be a very different matter, and would produce different effects on different shooters, depending upon their susceptibility. This susceptibility might be more psychic than physical, inasmuch as oftentimes one shooter, weighing half as much as another, is perfectly comfortable absorbing a greater amount of free recoil.

The approach to reducing recoil to the degree of comfort required by a shooter should not, however, be by, at first, dropping to a smaller bore, or light load, but rather by determining the heaviest gun that particular individual is capable of handling to the highest efficiency for his purpose. By this is meant that not only do light guns usually pattern more erratically, and less accurately, but also many individuals require a heavier weight to balance their build, and to coordinate their swing, and to "feel" correctly in their particular hands for the best consistent pointing skill.

Stock dimensions, barrel length and weight distribution are vital and essential factors in determining this maximum weight, and all three will vary as between pump guns with their long receivers, and doubles, or over and unders, with their shorter breeching mechanisms.

Once the maximum gun weight has been established the second attack should be made through the use of a compensator, if a single barrel gun is selected. This device will reduce apparent recoil from 30 to 45 percent with the various loads. The next step to recoil reduction should be the adoption of lighter loads for the larger bore gun, or in other words, a 16 gauge load for the 12 gauge, which 12 gauge can be bought in 16 gauge weight, or the 20 gauge load for the 16 gauge, either of which are available in standard stock loads, rather than go to a *smaller* bore of the *same* weight to shoot the *same* load.

The next step should be to buy a longer and straighter stock, the nearer to no pitch the better, and the use of a good rubber recoil pad to further reduce recoil by several percent. All these things together will reduce the apparent recoil of a 6¾ pound 12 or 16 gauge pump gun, using light loads, to a degree that the most recoil conscious shooter can achieve the highest skill possible for that shooter with any gun.

Perhaps it should be pointed out more clearly that it is not necessary to eliminate the total free recoil, but only that portion of the *apparent* recoil which the shooter is affected by, and which in the very heaviest loads, in the lightest shotguns it is safe to use them in, is seldom greater than one-third of the total recoil.

From a strictly technical and practical standpoint there is definitely no modern need, or place, for either 20 or .410 gauge shotguns, *except for individual preference,* because if one is desirous of really handicapping oneself in skeet competition or wants an extremely light weapon for upland game shooting, there is not enough difference between the performance of the ¾ ounce .410 and the 28 gauge load to justify the existence of both, but when used on living targets a real sportsman would be careful to confine the distance to between 30 and 40 yards to insure clean kills, depending on degree of choke.

On the other hand the 16 gauge may be secured in about as light weight as the 20 gauge, and in light standard loads of about equivalent effect and recoil, and in addition thereto 1⅛ ounce high speed loads can be secured which, with No. 6 or No. 7 chilled shot, may be considered an effective 45 to 50 yard wild fowl load in full choke guns. This is the lightest load a sportsman or woman should consider for serious wildfowl shooting under practical hunting conditions.

Mellie also expounded the pet argument of small bore maniacs that one must hold closer to hit, otherwise the game escapes wound-free, but I said IT AIN'T NECESSARILY SO—because the smaller the bore, the greater the percentage of deformed pellets, the greater the diameter of the pattern in equivalent choke at all ranges, and the longer the shot column. The fact is that greater error of pointing with a small bore is tolerable with hits still possible and the greater the likelihood longer, larger diameter, thin shot columns to strike a bird with a few wounding pellets to cause its certain death a little later (but too late to bag). The reason it appears necessary to hold closer, is because that actually, in the hands of most shooters, the lighter gun, and the thinner frame and smaller barrel, is harder to see and swing smoothly on moving targets, and requires more effort in holding to keep from jerky, uncoordinated pointing, and because only the center shot of the pattern will kill outright without wounding.

(To be continued)

"SUMMER IN THE PHEASANT COUNTRY"

THIS is "Pheasant Day" in the deep country of the Deerfield Valley, in the Allegheny Mountains of Augusta County, the second largest county of Virginia, from 2,000 to 4,000 feet above sea level, where I am paying my regular spring and summer visit to my family. In this spot, where the majesty of nature in her sublimest mood has seemed to bless the surroundings, thirty miles west of Staunton, the owl roosts with the chickens.

For some years "Pheasant Day" on these two beautiful adjoining farms has been inaugurated as the day when the first of the season's crop of ringneck pheasants is hatched and gathered to be released later into the wild game life of the farm. This year, hundreds of little birds—pheasants—from two to three days old, are thus gathered under the tender and successful brooding of bantam foster mothers. This goes on intermittently every few weeks from now until training season opens in the fall. They are used in the training of pointers and setters, together with the native quail.

Six hundred young pheasants will be released in the wild this 1943 season. That gaudy and sporty game bird that the Chinese gave us over a century ago, about which we hear so much these days—is some bird! Believe me!! The ringneck seems to take to this mountain country, and many broods are raised each year in the wild. Some hunters think the ringneck is no game bird and the hunting of them is no real sport, and that they are only good for mantlepiece ornaments, and all that stuff. As a matter of fact, the pheasant is known to be better eating, and 6 times as much food, at that, as the quail.



The cackle of the cock pheasant sounds like real pheasant profanity.

From where I am now lounging, the cackle of the cock pheasant sounds like real pheasant profanity, it is so sincere and defiant. Contrary to the opinion of some, other hunters tell me, they afford the finest sport in the world, because those "Chinks" are the *smartest* of *all game*. When hunter and trained dog go after them right, even after they have been used to bobwhites, they realize this. True, at first, dogs have been known to seem disgusted at times with themselves. They handle quail without a flaw, but have to get used to the antics of a pheasant. Quail when scented will usually lay until the dog is within a few feet of them, while the pheasant will often run along on the ground, but hunters say to me that when you do catch on to the "technique", and learn how to hit 'em that when you do hit—they are killed deader than any other game bird.

—J. F. Howison.

WHAT'S IN A NAME?

The name of this article, and the article itself was brought about by the fact that for the past two years, I as wife (unpaid assistant) of the Secretary of one of the largest individual sportsmen's clubs in Pennsylvania have tried to decode, decipher and understand the name and address of more than a thousand members in order to get their subscription sent in to the Pennsylvania Game News and the Pennsylvania Angler.

The membership card is plainly printed and easily read "PLEASE PRINT, DO NOT WRITE"; yet so many of these come in neither printed nor written, as I have proof, but with such a conglomeration of letters and figures, or a combination of both, it is a wonder to me that even a few of them get the magazine at all.

Some of these Hunters and Anglers may ask how I get the nerve to condemn or criticize them. but having been born and raised in the middle west, and married to a large and small game hunter for fifteen years, and being a fair shot myself, knowing a rifle from a shotgun, and the trigger from the stock, it's no wonder I'm in a fog half the time.

Having lived in this "Hunter's Paradise" of Pennsylvania for the past three years, and having spent most of every hunting season alone at home doing my husband's work, while he runs around in the brush looking for a black bear, or an eight-point buck, and then comes home too tired to say much, except how "close" he came to getting it, I wonder how some of these same Hunters and Anglers stay within the law, abiding by game refuge signs, and "No Trespass" warnings, when they can't see the information "PLEASE PRINT, DO NOT WRITE" on their membership cards.

My answer to "WHAT'S IN A NAME" would be, Who Knows?—I can't even read it.—The Secretary's Wife—A. Gun Widow.

HUNTING LICENSES DELAYED

The completion of the hunting license distribution will be about a month later than planned this year, due mainly to priority war printing contracts over which the Commonwealth has no control.

The licenses and tags, which are usually in the hands of the County Treasurers and other issuing agents before September 1, (the old license expires August 31) will probably not be available to all license purchasers until about September 27.

After conferring with the Department of Revenue, *the Commission decided to honor the 1942 license until the end of September* in order that nimrods who desire to hunt rails, gallinules, coots, ducks and geese, the seasons for which all begin in September, may not be penalized by the Commonwealth's inability to obtain deliveries as anticipated.

The Department of Revenue has arranged to ship some licenses to the County Treasurers by the end of this week to supply (1) those who have mislaid or lost the 1942 licenses, (2) those who did not have a 1942 license but wish to hunt this season before the printers deliver licenses to all agents, and (3) those who may desire to apply for antlerless deer permits, applications for which may be filed on or after October 1. The Bureau of Miscellaneous Licenses of the Department of Revenue at Harrisburg will likewise receive applications from the persons above enumerated. All others are requested to refrain from applying for their new licenses until a general release date, to be fixed by the Revenue Department later. In other words, all those who are not in immediate need of licenses are requested to use their 1942 licenses and tags up to the end of September.

By fixing a date when all license buyers may obtain their 1943 licenses the Revenue Department is putting hunters throughout the entire Commonwealth on the same footing. In the meantime those who must have licenses earlier can be accommodated by the Treasurers and the Department of Revenue. *No receipts of any kind will be honored in lieu of the license.* Both the Revenue Department and the Game Commission are confident that hunters generally will appreciate the situation and cooperate fully.

OFFICIAL 1943 OPEN SEASONS AND BAG LIMITS

(All Shooting Hours Based on Eastern War Time)

Open season includes both dates given, Sundays excepted for game. **On October 30 no hunting of any kind before 9 A. M.** With this exception, shooting hours daily are 8 A. M. to 6 P. M., except from July 1 to September 30 inclusive, 7 A. M. to 8:30 P. M. (See summary issued with license for Migratory Game hunting hours; also notes below on setting traps in open counties.) Raccoons may be hunted at night, with a noon-to-noon daily limit.

UPLAND GAME (Small game possession limit three days' bag)	Bag Limits Day	Season	Seasons Open	Close
Ruffed Grouse	2	10	Oct. 30	Nov. 27
Quail, Bobwhite	5	15	Oct. 30	Nov. 27
Hungarian Partridges (Cumberland and Franklin Counties only)	2	8	Oct. 30	Nov. 27
Wild Turkey (See 9 counties closed below)*	1	1	Oct. 30	Nov. 27
Ringneck Pheasants, males only	2	12	Oct. 30	Nov. 27
Rabbits, Cottontail	5	25	Oct. 30	Nov. 27
Squirrels, Gray, Black and Fox (combined kinds)	6	24	Oct. 30	Nov. 27
Squirrels, Red	Unlimited		Oct. 30	Sept. 30, 1944
Grackles (commonly called Blackbirds)	Unprotected until Sept. 30, 1944			
Hares (Snowshoe Rabbits)	2	6	Nov. 22	Nov. 27
Raccoons, by individual or hunting party: Upper Zone: (11 counties)*	3	15	Oct. 20	Jan. 15, 1944
Raccoons, by individual or hunting party: Lower Zone: (56 counties)*	3	15	Oct. 30	Jan. 15, 1944
Raccoons, by trapping (See 7 counties closed below).* Traps not to be placed before 8 A. M. opening date	.....	15	Nov. 10	Jan. 31, 1944
Woodchucks (Groundhogs)	5	Unlimited	July 1	Sept. 30
Bear, over one year old by individual	1	1	Nov. 15	Nov. 20
Bear, over one year old by hunting party of three or more	2	2	Nov. 15	Nov. 20
Deer, male with two or more points to one antler	1	1	Nov. 29	Dec. 11
Deer, as above, by hunting party of six or more	6	6	Nov. 29	Dec. 11
Deer, antlerless (See 8 open counties below)*	1	1	Dec. 13	Dec. 15

NO OPEN SEASON—Sharp-tailed Grouse, Doves, Cub Bears and Elk.

FUR-BEARERS—(Traps not to be set or placed before 8 A. M. on any opening date.)

Minks and Skunks	Unlimited		Nov. 10	Jan. 31, 1944
Otters (See 7 open counties below)*	.....	4	Nov. 10	Jan. 31, 1944
Muskrats (By traps only)	Unlimited		Dec. 1	Jan. 31, 1944
Beavers (Traps only, 22 counties)	.....	3	Feb. 15	Feb. 29, 1944
Opossums	Unprotected until Sept. 30, 1944			

SPECIAL COUNTY REGULATIONS

Turkey—No Turkey season in Clarion, Clearfield, Elk, Forest, Jefferson, McKean, Potter, Warren, and Westmoreland Counties.

Raccoon Hunting—

Upper Zone: This zone comprises the counties of Bradford, Cameron, Clinton, Elk, Lycoming, McKean, Potter, Sullivan, Susquehanna, Tioga, and Wayne. Season begins noon opening date.

Lower Zone: This zone comprises the counties not listed in the Upper Zone. Season begins 9 A. M. opening date.

Raccoon Trapping—Counties of Beaver, Cambria, Dauphin, Lancaster, Lawrence, Northampton and Schuylkill closed. Bona fide occupants (citizens) who are cultivating land may trap raccoons thereon in said counties.

Antlerless Deer—May be taken only in the counties of Cameron, Clinton, Lycoming, McKean, Potter, Sullivan, Tioga and Warren. Farm occupants (citizens) who are cultivating land may hunt such deer thereon in said counties without a permit. All others must secure $1.00 permit from Game Commission. See summary issued with license for details. (Non-Residents not Eligible.)

Otters—Trapping only in Lackawanna, Luzerne, Monroe, Pike, Susquehanna, Wayne and Wyoming Counties.

Beavers—Trapping only in Bradford, Butler, Cameron, Carbon, Columbia, Centre, Clearfield, Elk, Jefferson, Lackawanna, Lycoming, Monroe, Montour, Northumberland, Pike, Snyder, Sullivan, Susquehanna, Tioga, Union, Wayne and Wyoming Counties. **Non-Residents may not trap beavers.** One person may set, tend or operate 10 traps only. Trappers required to keep tags above ice or waterline to facilitate identification without disturbing traps. **Pelts must be tagged within ten days after season.** Present them to Protector in District or County where taken.

Snares—May be used without springpoles for taking predators in Clarion, Forest and Warren Counties, December 16 to March 31, 1944.

FEDERAL SEASONS MIGRATORY GAME BIRDS*

	Daily Limits	1943 Open Seasons (Sundays Excepted)
Rails and Gallinules (except Sora and Coot), combined kinds	15	Sept. 1-Nov. 30
Sora	25*	Sept. 1-Nov. 30
Coots	25*	Sept. 25-Dec. 3
Wild Ducks (see Restrictions)*	10*	Sept. 25-Dec. 3
Wild Geese and Brant	2	Sept. 25-Dec. 3
Woodcock	4	Oct. 1-Oct. 15

***RESTRICTIONS**—In the daily duck limit, only 3 Redheads or 3 Buffleheads, or 3 of these species combined, AND ONE (1) WOOD DUCK, may be taken.

POSSESSION LIMITS—Ducks, Geese, Brant and Woodcock, twice the daily bag (except on opening day), but only one (1) Wood Duck; other species, daily bag only. Possession 45 days after season.

DAILY LIMITS—Sora and Coots, 25 of the combined kinds, or of either species.

SHOOTING HOURS—(Eastern War Time). All migratory game birds: From beginning of respective open seasons to October 29, inclusive, one-half hour before sunrise to sunset; Oct. 30, 9 A. M. to 6 P. M.; Nov. 1 to end of respective seasons, 8 A. M. to 6 P. M. (unless sunset occurs earlier, when Federal sunset regulation automatically applies).

EXCEPTION—On the open waters of Lake Erie the Federal one-half hour before sunrise to sunset regulation applies throughout the waterfowl season, except on Oct. 30, when shooting before 9 A. M. is unlawful.

BOOK REVIEW

If you want to know something about what is being done to perpetuate the wildlife of the Nation read "Wildlife Refuges" by Ira N. Gabrielson, Director of the Fish and Wildlife Service, U. S. Department of the Interior.

This new contribution to conservation's library is one of the most entertainingly presented and nicely illustrated books I have ever reviewed, and its 257 pages unfold one of the most interesting and dramatic stories any conservationist or naturalist could ask for.

A half century ago naturalists and conservationists began calling attention to the need for the establishment of an extensive system of refuges and sanctuaries for wildlife. They saw the vital damage being done by vast drainage projects that brought profits only to the exploiters; they saw the forests' destruction and the futile attempts to convert submarginal lands to agricultural uses. Dr. E. W. Nelson was among the first to warn Americans of the fatal consequences to the great wildlife resources that would follow the misuse of the land. He declared that in the United States there was land enough for agriculture and industrial development and for wildlife and wilderness areas as well.

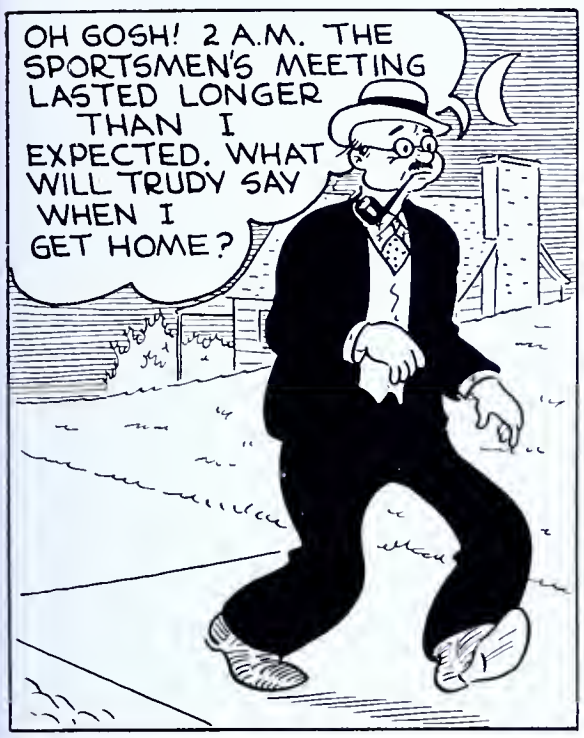
Through the years the idea gained increasing support. Legislation was provided and a plan was drawn. Finally, in 1934, funds were made available and the tremendous operation was begun. We now have in the United States and Alaska about 17,000,000 acres of wildlife refuges and sanctuaries, including nearly 4,000,000 acres for the waterfowl.

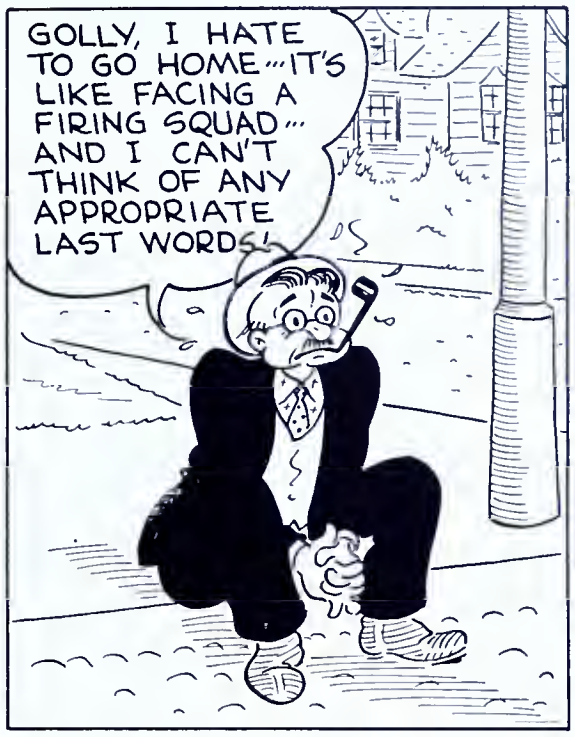
Dr. Ira N. Gabrielson is the man chiefly responsible for the actual development of this great wildlife refuge system, the greatest of its kind in the world. In an earlier book, "Wildlife Conservation," already in its third printing, Dr. Gabrielson has discussed the subject of wildlife, its relation to the human population and its value as a national resource.

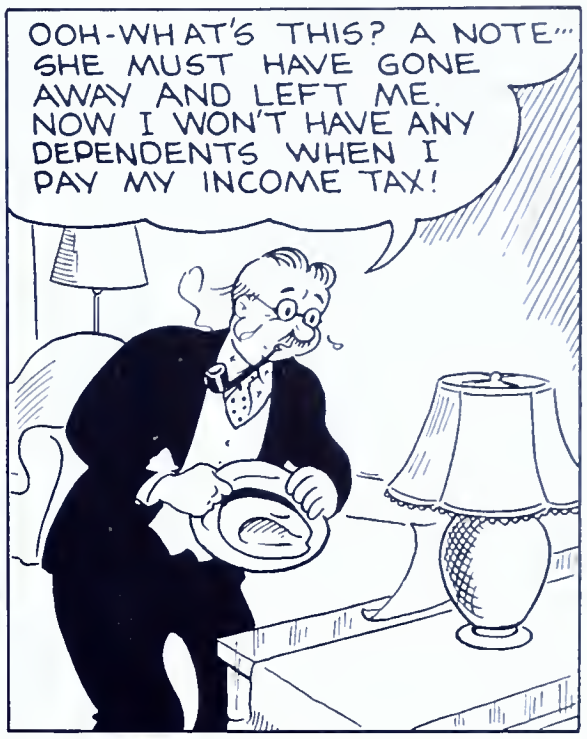
In "Wildlife Refuges" he describes the refuge system from the great waterfowl wintering grounds along the Gulf Coast to the wild and rugged islands of the Aleutian chain. There are refuges for all varieties of American wild birds and animals and Dr. Gabrielson describes them, their populations and their varied purposes. He does this with the conviction of one who is the leading authority on his subject, and in the language of a man who is profoundly aware of the romantic aspects of America's magnificence that had all but vanished from the earth.

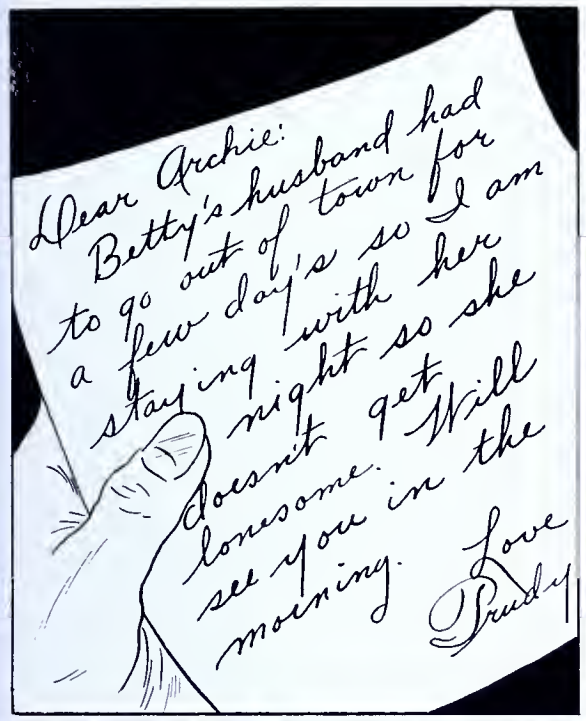
"Wildlife Refuges" is not a gloomy tale of continued and hopeless waste and destruction, which had been the common theme of conservation literature for many years past. It is rather a story of accomplishment, of great things that have already been done to build up the wildlife resources. The task is not finished by any means but the processes of restoration are understood and are now being used vigorously and effectively. —The MacMillan Company, New York. Price $4.00.

THE FAMILY OF A. HUNTER, ESQUIRE—EPISODE NO. 30





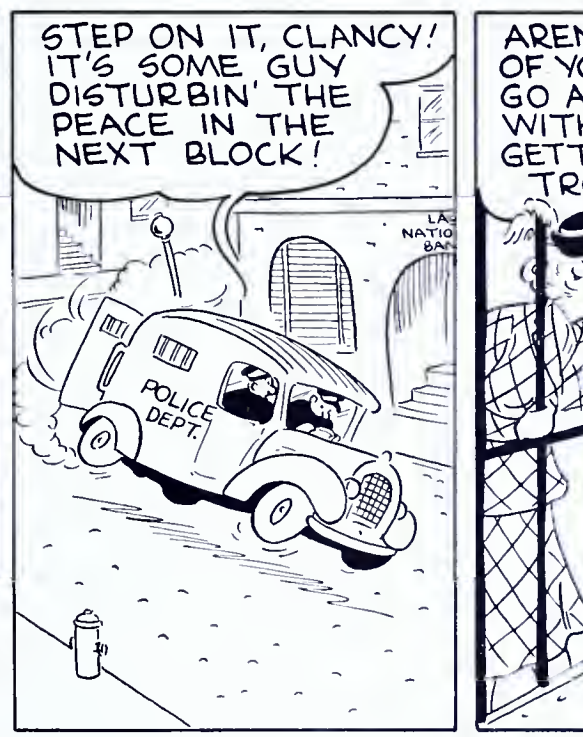














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EDITORIAL

OCTOBER, 1943

IN THIS ISSUE

☆

Post-War Planning
By Ross L. Leffler

★

Timberdoodle Tips
By Allan T. Studholme

★

Black Bear of Elbow Swamp
By Jack Anderson

★

"It Ain't Necessarily So- -"
By E. Baden Powell

★

Conservation Guinea Pigs

★

Fur Trapping Methods
By S. V. Sedlak

★

The Antlerless Deer Season

★

Pass the Ammunition
By Fred Everett

★

Hunting the Headlines
By Lewis D. Reddinger

★

The Call of the Wild
By N. R. Casillo

☆

Cover by Jacob Bates Abbott

☆

HASTE MAKES WASTE!

If at any time in our lives we must think before we act it's now, when nerves are on edge from long hours on one war job or another. This precaution pertains to everything we do and will apply especially when we go afield for much needed recreation this hunting season; then we must not only *think before we act but look before we shoot.* People are never so unconsciously and so carelessly dangerous as when they throw off the shackles of mental and physical strain and pursue, for the short time they have at their disposal, especially these days, the particular recreations they enjoy.

The natural inclination under such abnormal circumstances seems to make people want to get in as much fun as they can in the quickest possible time. And that is why tragedy often stalks—that is the reason haste makes waste!

Let us not make any foolish, any fatal mistakes this season. Let us not, in our over-enthusiasm, leave a blazing trail of sad memories in the woods and fields for lack of self-control; nor crippled game for lack of steady aim. Let us always remember that there is a war going on, that we are needed to help win it, that we can't help much if we are injured, or at all if we are dead; that it is more to our advantage to take our time when we draw a bead on one bunny, knowing that when we fire we'll have meat in the pot, than to fire quickly and haphazardly at three and get none. Meat is scarce these days. Life is precious. Let us be governed accordingly.

Haste not only may mean a wasted piece of game, but a wasted shell. And these days we cannot afford to waste shells. The fact that there will be some additional ammunition available this season does not mean that we can afford to shoot promiscuously, that we do not have to conserve. We must conserve, therefore let every shot count.

Realizing the great part lumber is playing in providing the implements of war, we must likewise prevent forest fires, and never by any hasty or careless act be responsible for their origin.

Be careful and conservative, never hasty or wasteful.

☆



Photo Philadelphia Inquirer.

A War Dog may save the life of some one dear to you. These dogs have proved so successful that the Armed Forces have increased their quota, based on their magnificent work with the Army, the Navy, the Marines and the Coast Guard.

Help your Country now in this vital part of the war effort.

Write today to W. Newbold Ely, Lt., U. S. C. G. R., Dogs for Defense Breeding Committee, 226 Walnut Street, Philadelphia 6, Pennsylvania.

Post-War Planning

By Ross L. Leffler*

THE most important job for the future is planning and executing a wise game management program on our far-flung system of refuges and game lands, the problems of which were pointed out in the September issue by C. S. Freeburn in an article entitled "Plans for Future Land Management." This involves considerable research along many lines, because it is no easy matter to provide suitable living conditions for a large number of so many different kinds of wildlife inhabitants; living conditions in the form of ample food and cover of the right kind.

Control of some species, as in the case of antlerless deer, is necessary ere they again increase in numbers beyond their food supply and in so doing also deplete the food and cover for other species.

The antlerless deer season in eight counties this season is just another example. When the Commission learned that the herds in those counties were becoming too large and needed controlled reduction it decided to effect that control in the easiest manner possible by making available a maximum of five permits for each deer to be removed. Whether this ratio will result in removing as many deer as it is believed should be removed, namely, 1,000 each in Cameron, Clinton, Tioga, Lycoming; 3,000 each in McKean and Potter; and 500 each in Sullivan and Warren, or a total of 11,000, remains to be seen.

Incidentally, the question is frequently asked concerning the permit system and why it is used. The simple answer is that permits control killing, yet at the same time prevent over-killing through over-crowding of hunters. Another question often brought up is the ratio of permits to animals and how the Commission figures it will take five permits to kill a deer. This, too, is simple though not as generally understood. In the first place, many permits may be purchased by fellows who go buck shooting and are successful, consequently the permits may not be used because a hunter who kills a buck can not hunt antlerless deer. Others purchase them in the hope of securing time off during that particular season, and then are not able to take it. This is especially true under present high-gear war conditions when any number of factors may prevent a man from going afield, particularly transportation facilities. Normally, the Commission has learned that it requires a minimum of three permits to insure the killing of one deer, but with conditions as they are today it felt that five would be a safer figure, and that may be too low.

Research

The Commission's post-war planning will, in all probability, also include a widely extended general research program. Conditions are ever changing; therefore it is essential that the relationship of wild creatures to their particular environments be studied constantly. There is much, for instance, to be learned about the home life of many of our wild creatures, their food habits, economic value, etc., and while many essential studies along this line have been made, the Commission feels that not enough attention has yet been given to this vital and all important activity. Research is necessarily a long-time process, and very often the main objective is not gained for years. However, in its pursuit many other, and perhaps even more important, things are divulged as the work progresses. A summary of the Commission's most important research activities from 1938 to 1942 inclusive is clearly outlined in an accompanying article by Allan T. Studholme, and I earnestly invite your attention to it.



Photo Delbert Batcheler.

Hunters! Save your deerskins and place them in the channels of trade. You may legally sell them if disposed of within 90 days after the season closes.

Education

The educational program, too, will have to be developed to meet post-war conditions, because there is no doubt in my mind that the boys who return, because of having mingled with and talked with hundreds of sportsmen in the camps and at the front, will appreciate more the importance of hunting both economically and recreationally, and will want to see it safeguarded even more zealously than they did before they entered the service. Sportsmen's organizations will increase in membership, schools will demand more visual materials, and the Commission hopes to be prepared to meet these anticipated needs.

Game Trapping

Another program which the Commission expects to expand, both now and following the war, is that of transferring game, principally rabbits, from areas like city watersheds, parks, institutional grounds, and other places where no hunting is permitted, and releasing it where open shooting is permitted, which was outlined in detail by Wilbur M. Cramer in the August issue under an article entitled "Vegetables and Ration Points." This program has tremendous possibilities for providing additional shooting stock where gunning is allowed, and it should have the active support of every citizen, especially sportsmen's organizations. In the past five years over 100,000 rabbits alone were trapped and transferred under this program. This number could very easily be taken every year if all concerned, including our victory gardeners, would pitch in and assist the local Game Protector in organizing a systematic county or district-wide campaign, the job to be tackled immediately after the Fall hunting season is over. Our own bunnies are far superior to any we can buy, and it's good business to spend our money here at home where we can make every dollar do double duty.

When one stops to think for instance that of the number of rabbits alone that are killed every year, each one hog dressed at about 1¾ lb., which based on last year's kill of 3.300,000 would total 5,775,000 lbs., or 2,887½ tons of rabbit meat, he is thinking in terms of a lot of food. Add to this the thousands and thousands of pounds of other game that is taken and you can readily appreciate its tremendous food value in a single season, and that's why every hunter must conserve every usable piece—*none should be wasted.*

Economic Value

The economic value of our natural resources is becoming of particular significance as the war progresses because people are recognizing in wildlife the important element of food. Before the war the recreational side of hunting was paramount, food was secondary. Today food is paramount, although recreation, too, is vitally essential.

In times of peace trappers and fur dealers pursued their vocations with primarily one object in mind—to harvest fur. The fats of some fur-bearing animals were saved, it is true. Today, however, fats have become an important by-product. Last year fur dealers, trappers and rendering plants cooperated splendidly despite certain handicaps, particularly lack of gas and transportation, in salvaging over 94 tons of grease—an amount which will produce enough glycerine to fire 752,000-37mm anti-aircraft shells, or 940,000-37mm anti-tank shells, or 1,880,000 rounds from a .50 caliber airplane cannon. *But we must plan not only to conserve and use these resources during war but during peace.*

Last year, too, hunters were urged, and an extensive campaign was promoted to salvage deerskins, but the results were not as gratifying as they should have been due undoubtedly to gas and tire rationing and poor collection facilities. Now with the game law

(Continued on page 27)

* Pres. Pa. Game Commission.



Photo C. Gordon Krieble.

Dale Skinner, Evans City sportsman and Dr. Hon. Wilbert D. Imbrie, chairman of the House Game Committee, Harrisville, are both ardent and usually successful woodcock hunters.

nighthawk. This call, phonetically expressed as "peent", is given at about one second intervals and it sounds more like he was trying to give the female the well known "raspberries" rather than the "come on." After a series of these calls which are preceded by a soft "took-oo" note, he springs into the air and starts a spiraling flight over the singing territory. On the way up a twittering sound, produced by the three "whistle feathers" located at the tips of each wing, is clearly audible. When the bird reaches the apex of his flight, 200 to 300 feet up, he suddenly falls from the air in a rapid zigzag glide uttering a warbling and twittering song. When a few feet above the singing ground, he stops singing and flutters to the earth only a few feet from the spot where he started the flight. Almost at once the "peenting" is again heard and the bird soon "takes off" on another flight. Ordinarily 10 or 12 such performances are given during a singing period before the male retires to the nearby thicket to feed and to rest.

But how can these crazy, love making antics that would make the most ardent Beau Brummel look like a rank amateur be of any help to Mr. Hunter? Why, it's simple! Next Spring, when you are trying to catch that big brownie during the evening rise and he won't even look at your favorite fly, give him a rest for a few minutes and see if you can't locate a singing woodcock. If there are any within a quarter of a mile they can easily be heard. When one is located, mark it down in your memory and plan to come back next woodcock season. It's not fool proof, but the chances are that you'll find a few woodcocks in the area.

Timberdoodle Tips

"WHAT good is all this newfangled research," asks Mr. Hunter? "We are the guys who foot the bills for these dreaming, so-called scientists who are always inventing Rube Goldberg contraptions after hitting the hay with a belly full of Dagwood specials. What do we get out of it?"

Well, Mr. Hunter, let's go over some of this "newfangled stuff" and see if you aren't getting your moneys worth. The main objectives of wildlife research are to improve present hunting conditions and to insure good shooting for future nimrods. Let's take a look at the results of work done on the woodcock for example, and see if it can't be applied so as to make your October days more enjoyable.

Years ago there were only a few, scattered, dyed-in-the-wool woodcock hunters in Pennsylvania, but in recent years many more have discovered the sport of this early season shooting. The quail-sized long-billed, popeyed bird often called Timberdoodle doesn't fly as fast as most of our feathered game but he is a real test for your snap shooting skill as he twists through the yellowing foliage of an aspen thicket. But before we get too deep into the merits of hunting woodcocks, let's go back and see what research has found out about their private lives that will help Mr. Hunter.

Timberdoodles are migratory shore birds that spend the winters mainly in the Gulf States, South Carolina, Georgia, and Southern Arkansas. Early in the spring they start a straggling northward migration to their breeding territories in the northern states. Most of them take up housekeeping in the Maritime Provinces of Canada and in the New England States but a goodly number nest and rear their young in Pennsylvania. Often they reach their summer homes so early that Mrs. Woodcock is caught in a late snow storm as she sets on her four, grouse-sized, brown-splotched eggs. The birds usually arrive in Pennsylvania during the month of March and immediately begin establishing their territories. From then until June the males may be observed performing their spectacular courtship activities.

Mr. Woodcock selects, as his courting territory, a small grassy opening or the edge of a field which is adjacent to a thicket or moist woodlands. This area, called a singing ground, is his own private territory which is jealously guarded against intrusion by another male. In fact he will usually chase any male that comes within 150 yards of the chosen opening.

After a suitable area has been selected, the male returns to it each day, during the twilight periods of early morning and late evening, to put on his performance for the benefit of any nearby females. He flutters onto the singing ground and utters a series of harsh, nasal calls similar to those of a

The use of open, grassy areas for singing grounds is in itself mighty important information. They are absolutely essential to the breeding habits of the bird. No matter how favorable other factors may be, there will not be a supply of breeding woodcocks in areas devoid of suitable openings. Here is where management comes in. It has been found that in such areas where food and cover conditions are favorable, the population of breeding birds can be increased by cutting openings in the forest and burning the debris. Often these man-made singing grounds are occupied the following spring. Such a practice helps other wildlife also—deer, ruffed grouse, turkeys, rabbits and many others utilize the openings.

A knowledge of the courtship display of the male woodcocks has helped Mr. Hunter in still another way. In the Spring of 1939 adult males were trapped and banded on their singing grounds in Centre County by three young fellows from the Pennsylvania Cooperative Wildlife Research Unit located at State College. They invented a contraption that would catch adult singing males—something that had never been done before.

One evening that spring a stuffed woodcock was placed upon another bird's singing ground. No one knew what would happen but it was thought that the owner might resent the intrusion and attempt to drive away the squatter. When Mr. Woodcock arrived

By Allan T. Studholme

●

to put on his evening show, he saw the decoy almost immediately and while uttering the took-oo notes, approached it on stiffened legs with wings upraised. Lo and behold, his intentions were not the least bit pugilistic; in fact, they were decidedly amorous.

It was apparent that a stuffed woodcock was the "bait" they had been looking for and the next job was to build a trap. This was done by welding onto the jaws of a fox trap, two number nine wire jaws which were covered with strong, light weight netting. A rubber band stretched from the pan to the base of the trap sprung it when the trapper pulled a cord which was attached to a wooden peg set under the pan.

The birds caught with this device were immediately banded and released unharmed. But this isn't the only system that has been used. In Louisiana, during the winter, adult woodcocks have been banded at night while on their pastureland feeding grounds. There they can easily be "shined" with a headlight and then caught in a shallow net attached to a pole 12 to 14 feet long. In addition to this system, several hundred baby woodcocks have been banded in Maine by using a leashed bird dog to locate the flightless young shortly after they had left their nests.

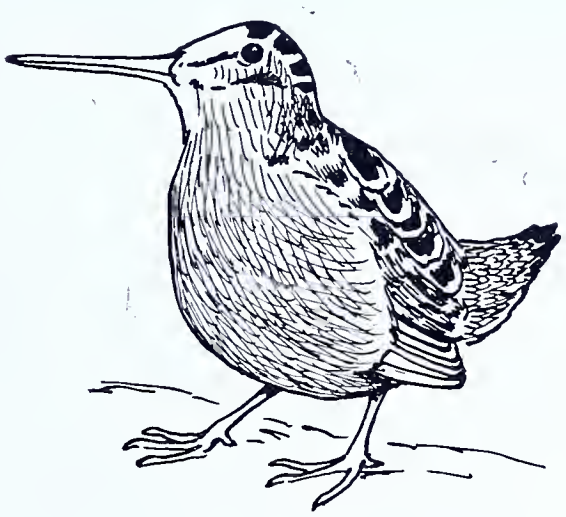
Already a goodly number of interesting banding records have been obtained and it is hoped that as more are recorded it will be possible to solve some of the mysteries surrounding woodcock migrations and to gather other important facts about their lives. In order to insure good woodcock hunting, it is imperative that game administrators know the how, when, and where of the migrations so that proper shooting seasons can be established. So Mr. Hunter, if you shoot a bird that has been banded, why not help out by sending the band to the proper authorities?

It is equally important that we know what the population trends are. Without this information it would be impossible to set safe seasons and bag limits, and here again Mr. Woodcock's vociferous exhibitions are a great help. It is possible to determine quite accurately what the population is on a large area in the spring by visiting it during the activity periods and locating the singing birds. If this is done on the same areas in different parts of the country each year, it is easy, after making comparisons with other years, to determine whether the birds are increasing or decreasing.

Woodcock censuses may also be taken during the fall, but since the birds do not sing at that time of the year another system must be used. Areas known to be good coverts are censused a couple of times each week by an experienced man using a good woodcock dog. Naturally with this method it is impossible to know exactly how many birds are on an area but it is possible to determine their relative abundance. It then follows that by comparing the number of birds on the different areas from week to week you can tell about when the different flights occurred. After this information has been gathered over a period of years it is possible to predict, with some degree of accuracy, the periods when the birds will be most plentiful in various sections of the country and the shooting seasons may be set accordingly.

"All this dope sounds pretty good," exclaims Mr. Hunter, "but how and where do you hunt them? I've gunned rabbits, pheasants, and deer for twenty years but I'll be danged if I ever saw a woodcock."

To begin with, it is almost impossible successfully to hunt them without a good dog because woodcocks are hard to flush and often the cover is as thick as the hair on a "sickle tail." The birds, unlike a lot of our other game, sit tight, relying on their protective coloration when danger approaches. Often you can walk within a few feet and they won't flush. This "freezing" quality makes them almost ideal to work with a dog but for some reason or other a lot of good bird dogs won't pay any attention to them. Quite often a dog will work and point woodcocks almost perfectly but will refuse to retrieve them. Apparently there is a peculiar odor and taste to the birds that



Timberdoodle

some dogs dislike. In spite of all this, there are quite a few good woodcock dogs in the State and if you are fortunate enough to have a chance to hunt with one, you'll undoubtedly be champing at the bit 'till you get one of your own.

As was before mentioned, a woodcock is no set up as he whistles through the October foliage, but he is brought down quite easily and the regular skeet load is plenty heavy to do the trick. But if he isn't even dusted on the first rise, don't give up hope. Usually he will fly only a short distance before fluttering into the next good cover and if he is properly "marked down" you stand a good chance of getting another shot. Here is where a close working dog comes in handy. Very often the bird will sit tighter than ever, and if every foot of the cover isn't worked carefully you may miss him.

The problem of where to hunt woodcocks is quite baffling due to their specialized feeding habits and peculiar migrations. The bulk of the bird's diet is earthworms and that is the reason why nature has endowed them with the long, slender bill. It is long so that the bird can probe deeply into moist soils and the tip is pliable which permits it to be opened and closed to grasp worms while the remainder of the bill is closed. Due to this specialized feeding habit, an area must have soils that support a good supply of earthworms and at the same time be sufficiently damp and friable to allow the birds to probe. Nearly always the type of natural vegetation found growing on an area is a good indicator of the soil properties. By observing what type of cover is present, Mr. Hunter can easily tell whether or not he is likely to find many birds.

Good woodcock shooting may be found in several different cover types in Pennsylvania but the two most favorite ones are alder swamps and aspen thickets. However, not every area supporting these types of vegetation will have a good population of birds. The best alder thickets are not the real wet or boggy ones; they are too wet for a good population of angleworms. But the ones that have a damp, loose soil are generally ideal woodcock feeding grounds. All of the aspen clumps will not afford good shooting either. The best ones are those that have associated growths of briars and goldenrods. An aspen thicket that has a ground cover of bracken ferns, mosses, or ground pines is of practically no value as woodcock habitat and it is just a waste of time to hunt in such areas.

But these aren't the only good places to try your luck. Old pastures that have chokecherry, apple, and hawthorn clumps are often good environments and on such areas the shooting conditions are nearly ideal and it is easy to "mark down" the birds if you miss a flushed bird. Cut-over areas on moist hillsides supporting a mixture of maple, waterbeech, chokecherry, blackberry, and associated herbaceous growths may also harbor a number of birds, especially where they are lightly grazed by cattle. Our old concepts of management for game birds indicate clearly that regularly grazing woodlots is extremely undesirable, but research findings so far indicate that the woodcock is an exception to the rule. It has been proven in the prairie country of the west that light grazing is often of benefit to ducks and it is also now apparent that the same practice over suitable woodcock grounds is often highly desirable. It keeps singing and feeding patches open so they do not grow up with solid stands of trees and shrubs. As research is continued, it may show us that the practice of light grazing may be of benefit to other game birds as well. Often bottom lands having typical dense woody and herbaceous growths furnish good environment for woodcocks but on such areas the hunter meets jungle-like conditions and often can't even see the bird when he "whistles off", let alone find the dog when on point.

All or any of these cover types may have good populations of woodcocks at various times during the fall but because of their peculiar migration habits it is impossible to guarantee finding any birds on a given area at a given time. You often will have good shooting in a territory one day and come back the next with high hopes of knocking them for a loop only to find they had pulled out during the night. If an area looks good but you can't find a bird, don't cross it off the list; chances are that the next time you'll have plenty of fun. And here is another tip that will help in telling whether or not

(Continued on page 27)

Black Bear of Elbow Swamp

By Jack Anderson



A page from the past; old Grat and a Pocono bear hunting party.

I'LL tell you right now that bear hunting is no sport for a man with a diseased heart; and further, I'll tell you that a person with such affliction should not venture into the Elbow Swamp of the Pocono mountains of Pike County, Pennsylvania, for a more jungle-like mess of windfalls, laurel patches, scrub oaks, creeping vines and green briars, is extremely difficult to find. And yet all of us were in accord that Jake should go along, even after the doctor suspected a heart condition and had prescribed "much rest."

So off we went, on a November's frosty dawn, up to Grat Mellows' cabin in the Poconos, to hunt black bear. Wendell Miles accompanied us. He was a good hunter but a notorious sob story man, a disciple of Schopenhauer if ever one lived, although he probably has never heard of the pessimistic philosopher. And Jake's brother Ed also decided finally to go along. Ed swore that he'd devour the hide of any bear shot in Pike County. It was a beautiful day, cold but crystal clear, and we made good time driving up into the mountain country.

We set up camp in one of Grat Mellows' cabins near Pecks Pond. By the time we were settled clouds began to gather ominously. In another hour, rain began to fall. Wendell looked up at the swiftly-moving clouds and grumbled, "Big storm coming up."

"Passing clouds," said Grat Mellows, from his seat on the cabin porch. "Unsettled weather, that's all."

"It looks mighty bad," Wendell insisted.

"Oh poppycock," said Ed. "I wish I could strike a happy medium between you two, one is all gloom and the other is all roses." He sighed contentedly, filling his deep chest with incomparable Pocono mountain air. "The only thing about this whole thing that's bad to me is we ain't getting a bear. But it sure does a man good to get out in the deep woods once in a while."

"There's bear in Elbow Swamp, don't you think there ain't," Grat Mellows said.

Ed smiled without answering.

"You just wait and see," the old guide said.

Until we were fully settled, it was late afternoon. The rain ceased to fall, but a cold raw wind blew strong from the north. Sunset was a pale red, surrounded by thick purple-black clouds. We all settled inside the cabin, and after the evening meal of bacon and eggs sat before a roaring fire in the open fireplace.

I looked at Jake, and there was a peace on the man's face that long had been absent. Jake had had many troubles recently, and had worried himself into an illness. For weeks he had sat idle, brooding. He had always been an outdoorsman; hunter, trapper, fisherman, the call of the great outdoors had ever been irresistible. Ed had observed to me the day before, "He don't need no medicine except the forest. Heart ailment. Bah! That doctor don't know Jake like I know him."

We sat long by the fire, lone woodsmen in the dark and wind-stirred forest, and told tales to the accompaniment of crackling flames and the hissing of green pine timber. The aroma of tobacco was heavy in the air, and everyone except Wendell was cheerful—and Wendell was content in his gloom. It was late when I turned in—turned in with my buddy, Ed Gordon. And I fell asleep very quickly. But I did not know, had no way of knowing, how short-lived my sleep was to be.

I was awakened in the middle of the night by eerie groans and a terrible pressure on my stomach. I awoke to darkness split only by a dying fire, and found myself being rudely crowded to the end of the bed by my companion. My mind filled instantly with the picture of merry-faced Ed, stowing away egg after egg and slab of bacon after slab of bacon. Oh God, I thought, nightmares! I nudged Ed. His response was to quiet down and moan an incoherent "Ah?uh-uh-h- . . ." In another instant he was snoring soundly.

Four times that night I was wakened by Ed. Consequently, I slept little. It was one of the nights down on my ledger as lessons; and the moral of the lesson was, steer clear of Ed Gordon as a bed companion.

And here I must digress. I could write a book on my experiences of pals I have bunked with—a book that should, I expect, brand me as enemy where before I passed as friend. Many are the nights I have spent sleepless because of the nocturnal habits of another. One man snores. Another is a hugger. Another is a cover snatcher. Another spends the night talking and adventuring, so that one wonders how he could be rested in the morning. Oh, the tales are innumerable, and each succeeding tale would have a misery more terrible than the last. I wonder often which is worst as a bed-companion, a mosquito or a fellow man.

But of the bear hunt. I wakened the following morning after my last cat-nap and blinked out at the dawn.

"Clear," said Grat Mellows, "but it snowed several inches during the night."

"Oh well, it's clear anyway," said Jake.

"I don't like it," Wendell put in. "It cleared up too fast to suit me. Something's brewing."

"That something's the coffee," remarked Ed. "Sit down and shut up. Boy, nothing but a good cup of coffee after a fine night's sleep in the woods for me!"

I said nothing, but I certainly did wince as Ed mentioned "fine night's sleep." I could have fallen asleep at the breakfast table.

But we wasted no time, and soon we were outside, dressed warmly, puffing smoke-breaths into the frosty air, guns over our arms. The forest was a silent fairyland of snow, touched lightly here and there by the golden fingers of sunrise. We did not speak, but started into the forest along an old and familiar path. Nothing is more still than the silence in the forest after a fall of snow, and this stillness was broken only by our soft foot-falls and an occasional snap of brush. We walked on and on, through gulches, across streams that murmured sweet cadences through the blanket of snow, up steep hillsides. Finally we crossed a rocky, sharp-crested divide, and walked downward then in what appeared as a huge, yawning valley. Soon we had entered the Elbow Swamp.

(Continued on page 26)

"It Ain't Necessarily So,..."

By E. Baden Powell

Continued From Last Month

VERNON was one of those duck hunters *who swear* that large shot will kill wild fowl farther than small shot, but I said, IT AIN'T NECESSARILY SO. Study of the effects of single and multiple wounds in animals and birds of all sizes reveals that the killing power of wounds is proportionate to the square of the number of similar size and type wounds. In other words, two *separate* wounds affecting the *same quantity* and *quality* of tissue have four times the killing effect of a single wound, while three wounds exhibit about nine times the killing effect of one wound, five wounds exhibit 25 times the killing effect, and so on in geometric progression. Therefore, small shot at the distances at which the velocity and energy is still great enough to penetrate the vitals, will likely inflict two or three times the number of small wounds, each of which may not destroy as much tissue but in the aggregate will actually produce a greater killing effect, than a pellet of two or three times the size. The moral in this is that if the shot charge to be used limits the number of large size shot to a sketchy pattern, at a distance at which small shot would still retain sufficient energy to penetrate to the vitals, the smaller shot would be the more effective load.

A balance between range, shot size and charge, and pattern must be obtained to assure optimum killing power when shooting game birds with properly choked guns. regardless of gauge. For instance, ¾ ounce of No. 6 shot will kill all sizes of upland game birds and wild fowl very effectively at 30 yards on the wing, but so will 7's, 7½'s and 8's, and even 9's, for that matter have sufficient velocity at that distance to penetrate to a large fowl's vitals from any modern shotgun shell of .410 gauge or larger. If the bird is on the water, the 9's would likely kill better at 30 yards than the larger shot because of the greater number of pellets likely to penetrate vital areas of the head, neck or spine. While the No. 6 shot would be able to penetrate as deeply at twice the distance as the No. 9's, if the charge of No. 6 is limited to ¾ ounce, the pattern is so thin at beyond 30 yards as to likely not strike a vital spot, and nothing smaller than a single No. 2 pellet in a small game bird and a BB in a large game bird, will kill quickly at *any* distance unless struck in vital nerve tissue areas. Therefore, the writer prefers and uses shot sizes assuring multiple wound possibilities, with proper chokes, to effect quick, humane kills at maximum ranges.

Mellie was one of those "shut-one-eye-and-draw-a-bead" shotgun aimers who swore one must have sights at least equivalent to a ⅛ inch rifle ivory "jack" bead front and a rocky mountain full buckhorn rifle rear sight on any shotgun in order to hit consistently at any distance, but I said, IT AIN'T NECESSARILY SO because exhaustive tests on almost every conceivable type and specification of stock reveals an extreme "checking" position differential amounting to ¾ inch vertical and ¾ inch horizontal eye position from shot to shot, which would mean not more than 30 inches variation at 40 yards, and which is within the "effective" pattern of even full chokes. Therefore, skeet, trap and upland game shooting at 40 yards and under does not need elaborate aiming devices, and the ability to "point" a sightless smoothbore faster may get the shot off enough sooner to hit the target before it gets far enough away to require accurate aiming devices. However, at 50 to 80 yards range *only* the low power shotgun scope can provide the precise *direction* necessary to assure consistent hits, regardless of the skill of the gun pointer, because of choke characteristics. All of which means that all standard shotguns up to 12 gauge in power need *no* sights and that *all* shotguns from 12 gauge Magnum up in power are no more effective than standard 12 gauge *unless* scope sight equipped. Hence, the reason so many shooters fail to find the advantage of the Magnum's greater possibilities. The Magnums equipped with super chokes to be effective at long range throw half of their patterns in a dense center pattern at 40 yards. The rest of the pellets cover the usual three and a half foot circle. At 60 to 80 yards this central cluster fans out to a two or three foot killing pattern. The other half is a low, thin, scattered, deformed pellet, low velocity, stringy, wounding pattern. A ¼-inch error in

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eye position in the "cheeking" throws the central killing pattern clear off the target.

Finally all these arguments led to a challenge to compete in a sage hen hunt. The birds were abundant and, while not a difficult target, were full grown tenacious grouse, with heavy feathers and tough muscled bodies that weighed 6 to 8 pounds apiece, and measured 24 to 32 inches in length. Vernon brought 25 shells loaded with 4¼ drams of powder and 1¼ ounces of soft BB shot for his 10-gauge lever action. Mellie had 25 shells loaded with 2¾ drams of powder and ⅞ ounce of 7½ chilled shot for his 20-gauge double. I took 25 shells loaded with 3¼ drams of powder and 1⅛ ounces of chilled No. 6 shot for my 12-gauge pump.

The hunt started along the plains of the Buena Vista Valley when fall was waning and tints of gray were beginning to creep over the stately peaks of the Humboldt Range. The tan plumes of the sagebrush were drooping, while the cottonwoods in the canyons were shedding their yellow leaves into the rippled creeks beneath. By midafternoon, with our horses, my two pals and I were winding up an arroyo from the main valley almost to the foothills.

In a mile or so the arroyo opened up into the main canyon of Jackson Creek and at this point we separated, one riding to the top of either bank of the arroyo and I continuing up the bottom. In a few minutes Vernon jumped an old sage cock. The cock was so big that he lumbered off like a prize turkey on the wing, with his long tail streaming out behind him, and if a planet had suddenly fallen on Vernon he would not have looked more surprised than when he missed him at a scant 40 yards. There was little time to reflect on the cause of the miss for another great bird roared up to the right.

Scarcely had he reloaded when, like a retreat of cavalry in gray uniform, a flock 200 yards long rose across the front. Though there were apparently a dozen right in line before him, yet at the crack of the gun only a single bird fell, and as the rest unharmed climbed the air with throbbing wings, he fired again and another bird parted from the flock with wavering flight, hung high in the air for a moment, then folding its wings descended with a thud to the top of some bushes a stone's throw away.

As the sun entered the home stretch, the number of birds increased by the minute. Most of those hitherto flushed were merely sentinels, but now we rode into the main flock fleeing on their way from the evening water. Long lines rose to the right and left, now thoroughly aroused by the booming guns, for already Mellie and I had gone across to the bunch which Vernon had scattered. Over the bluffs where the foothills began to rise, a single bird rode the last beams of the sinking sun.

In every direction the thoroughly alarmed birds sprang into action, only to alight again a few rods in advance. While I was gazing at the sight, almost unconscious of my purpose, two birds

(Continued on page 27)

Conservation Guinea Pigs*



Photo by C. Gordon Krieble.
The ecology and life history of the black bear are being studied.

THE research activities of the Pennsylvania Game Commission have been so extensive and have covered such a multitude of projects that it is possible to present here only a brief summary of some of our accomplishments during the past few years.

The purpose of our activities has been to find scientific data that will be of assistance in managing intelligently the Commonwealth's wildlife so that the public will benefit.

There are three methods of financing these projects: (1) Projects financed entirely by Commission funds; (2) projects carried on under the Pittman-Robertson plan; and (3) projects conducted by the Pennsylvania Cooperative Wildlife Research Unit. Herewith is presented, according to species, a brief summary of research activities.

Mammals

Cottontail Rabbit Study. Several research projects were designed to discover more about the life history and requirements of the cottontail rabbit. The principal facts disclosed were: (1) Information concerning breeding potential, seasonal food and cover requirements, cruising radius, the effects of predation, disease, and parasites, and related facts has been produced. (2) Cottontails cannot withstand climatic extremes unless good quality cover is available. (3) Woodchuck holes provide ideal winter retreat and escape cover for rabbits. (4) Wild-trapped native rabbits are far superior to imported animals for restocking purposes. (5) Information as to the number of cottontails that may be annually live-trapped from a given area for restocking purposes has been attained. (6) The high mortality rate among imported animals is probably due to their inability to acclimate themselves rapidly to entirely different food conditions. (7) The work has disclosed an important ecological relationship between the cottontail and the woodchuck.

These projects afforded sound information usable in cottontail rabbit management. The wisdom of protecting groundhogs has been substantiated and valuable information concerning restocking and live-trapping problems has been gained.

Virginia Whitetail Deer Study. The important information resulting from research activities on Pennsylvania's large deer herd are: (1) By developing a method that makes possible the measurement of amounts of deer food on given areas, the status of the deer herd and the forage conditions throughout the range were determined. (2) Daily food requirements and comparative nutritive value of several woody plants was determined. (3) Information is being gathered concerning the effects of forage conditions upon the rate of reproduction, and sex ratio of the progeny. (4) The effects of silvicultural practices on the supply of foods. (5) Widely fluctuating temperatures are more harmful to deer than continued cold. (6) A simple census technique for use on limited areas has been developed.

These studies are producing facts essential to wise management of the deer herd, particularly in regard to the setting of antlerless deer seasons. The work provides for computation of the carrying capacity of the deer range and shows that winter losses are caused by malnutrition combined with extreme weather conditions and not by parasites or disease.

Black Bear Study. The ecology and life history of the black bear are being studied in order to determine its requirements. Year-round food habits have been studied and bear kills reported in the 1939, 1940 and 1941 game-kill tabulations were analyzed through a special questionnaire.

This work will make available data of value in future problems concerning proper management of the black bear.

Fox Study. Foxes are important animals in wildlife management work since they have a definite role in the ecology of many of our small game animals.

Research is revealing important facts concerning the fox hunting vs. small game hunting problems, as well as the relationship between the foxes and game and domestic stock. The information is of value as a guide in adopting bounty regulations and in reaching a solution to the several fox problems.

Fur-bearing Animal Study. A wealth of information has been provided on trapping activities, the muskrat harvest in northwestern Pennsylvania, the fur primeness of various species, and predator and economic problems.

The results are valuable as a guide for controlling the harvest and permitting trapping only when the fur is prime.

Birds

Ringneck Pheasant Study. Several research problems have been carried on in order to gain scientific data of value in a management plan for the ringneck pheasant. The principal facts disclosed are: (1) Much life history material has been collected and census techniques have been developed. (2) Cropping factors determine quality of phea-



Photo by W. L. R. Drake.
A study of the muskrat in northwestern Pennsylvania revealed some interesting facts on primeness, etc.

* A Summary of Pennsylvania Game Commission Research Activities From 1938 to 1942, Inclusive by Allan T. Studholme, from data compiled by Richard Garstell.

sant range. (3) Winter carrying capacity is proportional to the amount of corn left standing over winter. (4) Important information on hunters' take and crippling losses has been gained. (5) Of especial interest and practical value is the discovery of a simple, accurate method of determining the sex of day-old pheasant chicks.

The results of these projects will be useful in any pheasant management program and it will be possible to rear pheasants in any desired sex ratio.

Bobwhite Quail Study. With the idea of increasing the supply of bobwhite quail through proper management, research activities are being undertaken.

Information on the ecology and life history of the quail has been obtained, together with the determination of the mechanics of winter quail losses. Projects now under way are trying to solve the rearing and release problems. The most important facts disclosed by the various quail projects are: (1) The ability of bobwhites to withstand climatic extremes is dependent, to a large degree, upon covey size. (2) Small groups of birds, three or four in number, frequently die within a few hours under extreme conditions even though they are in good flesh and well fed. (3) The breeding powers of the birds may be seriously affected by severe winter suffering.

This work shows that quail, in order to survive our winters, must have at least six or even eight individuals left in each covey. Furthermore, it may be wise to give the birds complete protection for a season after a severe winter since reproduction is likely to be abnormally low.

Wild Turkey Study. Through wise management practices, Pennsylvania has become one of the few Northern States that still have wild turkeys in sufficient numbers to permit an open shooting season.

The factors being studied in the turkey program are range requirements, success of stocking, causes of mortality, extent and condition of range, and present status of the bird. Also, a series of physiological studies was conducted to determine if there were any basic differences between the turkeys produced at the State Wild Turkey Farm and those hatched from eggs produced on wild mating areas.

The principal facts disclosed by this work are: (1) The present range of wild turkey is limited by the availability of contiguous forest areas that produce the required essential winter foods. (2) When only a day old, the chicks produced from eggs of wild mated stock have factors of wildness not exhibited by the farm birds. These characteristics are kept permanently by the wild mated poults but are never developed to an equal degree in the other birds. It is apparent, therefore, that for restocking purposes the birds from the areas are superior to the farm-raised turkeys.

These findings are important since the proof of the existence of the differences between the farm and area turkey justified the expansion of the system of wild turkey propagating areas. The information gained is also of value as a guide in planning the turkey management and restocking programs.

Ruffed Grouse Study. Management and life history grouse studies have been carried on to gain additional information that will be of value in proper management of this bird.



Photo by J. B. Miller.
Woodchuck holes provide ideal winter retreat and escape cover for rabbits.

The findings of this work have disclosed much material on the food habits, range requirements, population densities, and mortality factors. This is of practical value in that it provides additional information on the improvement of grouse range and will be of assistance in setting bag limits and shooting seasons.

Woodcock Study. Although the woodcock is a migratory bird and is not a permanent resident of the Commonwealth, it is none the less an important game species and as such has been given attention.

The work so far has been limited to investigating breeding and fall woodcock populations and working on live-trapping techniques. The accomplishments to date have been the development of a live-trap for banding purposes and the determination of densities of breeding woodcocks in certain areas. Also, data on the spring and fall migrations have been assembled.

The findings of this study will enable us to learn more about the migration and status of woodcocks and assist in setting woodcock shooting regulations.

Hawk and Owl Study. The study of hawks and owls has been the analysis of stomach contents of predatory birds. The principal facts disclosed were that: (1) On the basis of food habits, only three species of hawks, the Goshawk, the Cooper's hawk, and the sharp-shinned hawk, are detrimental to the interests of man. (2) That on the same basis, the great horned owl is the only owl falling into that classification.

The findings disclosed by this study are of value in determining what legal protection, if any, should be granted to predatory species and in setting up bounty regulations.

Other Research Projects

Banding and Tagging Program. Pheasants, quail, Hungarian partridges, rabbits and other game animals released for restocking purposes were banded or tagged with special markers requesting that the Commission be notified of their being found dead or legally taken.

The principal facts disclosed were: (1) The more suitable the natural range on which pheasants are released the higher the band returns. (2) Only a small fraction of the quail are ever reported, and most of these are taken a short time after release. This information has been of much practical value in the restocking program.

Operation of Controlled Shooting Areas. Three special shooting areas were operated for a period of five years. On these, information concerning the amount of hunting, the take of game, and the effectiveness of small refuges and related facts was gathered.

The principal facts disclosed by this study were: (1) The average hunting day is approximately five hours. (2) The approximate figures on the average number of hunting hours per head of game killed are: Pheasants, 12 hours, and rabbits, four hours. (3) Approximately one head of small game may be harvested annually from each 2.5 acres of land. (4) The small retreat refuges effectively serve their intended purposes.

The results obtained from the work are of practical value as a guide for establishment of additional Cooperative Farm-Game Projects and in setting annual open seasons and bag limits.

Winter Feeding Experiments. In order to determine the actual need for winter feeding, an exhaustive study was made of the fasting powers of various birds and mammals. Field observations were supplemented by the use of a climoactometer, a chamber in which practically any desired type of weather conditions can be reproduced

The principal facts disclosed by these winter feeding experiments are that: (1) With the exception of bobwhite quail, most species of Pennsylvania birds and mammals can successfully withstand, without supple-

(Continued on page 30)



Photos by Author.

Minks caught by a trapper in northeastern Pennsylvania.

Fur Trapping Methods

PART 2

THE best advice that any successful trapper could impart to a newcomer in the pursuit of fur-bearing animals would be simply this—use your head. One may read hundreds of pages of trapping literature but it's good headwork that really counts most in catching fur bearers. Moreover, the problems of a trapper differ somewhat from day to day.

In trapping for foxes one may catch a skunk instead, particularly in the case of the dirt-hole set. If this occurs before the season opens on skunks there would be the problem of what to do and how to do it. The correct move would be to release the skunk. Here the trapper procures a two or three-pronged stick or limb of a tree, one that has an over-all length of eight to ten feet. With the stick in hand approach to the skunk should be slow and gentle so as not to excite the animal, and when within reach of it the pronged end of the stick should be gradually lowered down over the back of the creature. Thus the animal is pinned down against the ground quickly and firmly. Holding firmly to the stick the trapper moves forward to the skunk, then places the stick under one arm. With both hands free the spring of the trap is pressed down, the trap jaws are opened and the foot of the skunk is withdrawn. Applying both hands to the stick again the trapper backs up to a safe position, lifts the stick, and watches the striped kitty go on its way.

If a dog is caught, as happens once in awhile, it should be approached slowly, talked to kindly, stroked gently down the back a few times, and released.

If a small game animal is caught, as may occur occasionally, the extent of injury should be carefully diagnosed. If there should be a compound fracture the tendons that hold should be cut with a pocket knife and a tourniquet of shoe string or other cord applied as a constricting band about an inch above the severed part and finally the animal is set free.

The coup de grace as administered to a trapped fox is like this: A two-pronged stick about three feet long is procured. With the crotched end the animal is caught by the neck and pinned against the ground. The fox is then turned belly-side up and the heel of the shoe is used to press down over the heart area of the creature. A firm heel-hold for two minutes makes the fox a good fox. No bullet holes, no abrasion marks and no blood.

NOTICE!

All persons subscribing to the "GAME NEWS" from Philadelphia, Pittsburgh, Scranton and Williamsport, Pa., should include the Zone Number in their address when making Application!

When a fox has been caught in a solid-staked set—as the dirt-hole set—and disposed of in the manner described it enhances the possibilities of catching another one. Of course the ground could be ripped up considerably but the place would be so well saturated with odors that another fox passing in the vicinity would stop to investigate. The dirt-hole could then be renovated and the trap reset and concealed.

When loose-setting is practiced, as with the grapple or the wood clog, the trapped animal always gets away several paces and sometime much more than that before it gets hooked up in the brush. The grapple or the wood clog always leaves the tell-tale trail to show the course taken by the animal. When it has been dispatched the trap can be returned to its original setting place and fixed up again.

Skinning

It is advisable to take the fur off the carcass of a fox just as soon as possible (this applies to all other fur-bearing animals as well) because they are more easily skinned while some body heat remains in the carcass. Removal of the fur is an operation which requires careful cutting and pulling, and it is the first step of a series in pelt preparation for the raw fur market. Proper attention to skinning enables one to produce a nice looking fur and good appearance adds substantially to the value of the raw pelt. With the exception of beavers all fur-bearing animals are skinned by the cased method: The skin is pierced at the underside of both

By S. V. Sedlak

of the hind feet, the cuts are directed to the anus, the anus is completely cut around and then the underside of the tail is cut open to the tip. This applies to all fur-bearing animals that have a furred tail. The tip of the tail bone is grasped by two fingers and pulled out. A little more cutting may be required to loosen the pelt at the hind legs and then with a little pulling effort the pelt is worked off around the carcass. A little more cutting may also be necessary around the neck, and again at the ears, where one should cut close to the skull. The pelt is pulled again, and at the eyes the cuts should be made most carefully once more. Cutting over the nose and around the mouth completes the skinning process.

Foxes and minks are usually skinned with the foot pads included on the pelt. The tails of red foxes and minks may be slipped or pulled off the tail bone by inserting the crotch of two fingers firmly by the root and exerting a little force. The tail is then slit open to the tip.

Fleshing

It is essentially important that all surplus fats, greases and flesh be thoroughly removed from the pelt in order to facilitate drying. This job may be done right on the stretching board. The scraping is commenced at the head and is worked systematically downward. All of the fat and grease should be saved and kept in clean containers. America's explosive manufacturers are waiting for this valuable by-product of the fur-bearing animals. The housewives of America are saving grease in such small quantities as teaspoonfuls in an endeavor to do their part toward the war effort; surely we fur-takers, who are in a position to salvage fats by the bucketfuls, will not be very patriotic if we do not do our part in "Save the Fats to Help Win the War" program.

Stretching

The pelt is fitted on the stretcher with the flesh side on the outside. It is drawn over the stretcher to fit snugly with the back on one side and the belly on the other side. Then it is tacked or hooked on at the bottom to hold its shape. It pays to make a nice looking job of stretching because the shape of the pelt is given careful consideration by the fur buyer.

Drying

The stretcher with the pelt is hung up in a place that is dry and cool with some air circulation. Raw furs should never be hung up where the sun hits them. The pelts of foxes should be turned over after about twenty-four hours—in other words the pelt is removed from the stretcher, the fur side is drawn on the outside and the pelt is then placed and drawn over the stretcher again with the fur side out. Under proper drying conditions the pelts of foxes are ready for shipment or sale in three or four days. The pelts of weasels are sufficiently dry in one day. Pelts of muskrats and minks are dry enough in about four days and the pelts of opossums, skunks and raccoons, due to their greasy condition, may require a week or ten days to dry properly.

Weasel Sets

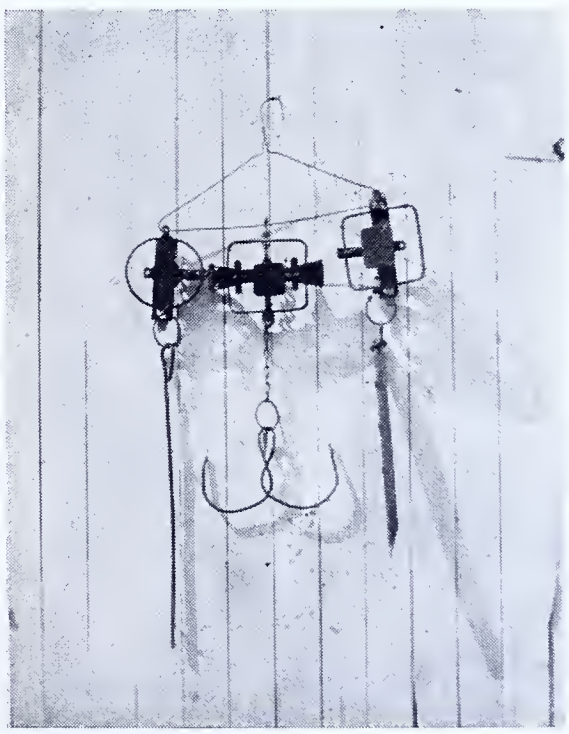
Weasel sets may be worked in simultaneously with fox sets. To be most successful the trapper equips himself with some fresh bait of domestic rabbit or fowl, cut up in small pieces weighing about an ounce each. Since weasels have a habit of searching through rock piles a great deal, a place around a heap of stones, a cliff or a crag should be selected for the set. The trap is imbeded firmly, covered very lightly with thin moss, dried grass or something similar, and tied to a stake or drag. The fresh piece of meat should be placed about a foot or fifteen inches directly above the trap.

Where rock masses are not easily accessible the weasel set may be made under grapevine thickets or other woody entanglements, in wood piles or anything similar that affords good hunting places for these little animals.

Good fresh bait is the best known lure to catch the weasel. When the fresh bait has tainted it has no further appeal and should be removed and replaced with another fresh piece of meat.

Skunk-Opossum Sets

Both the skunk and the opossum may be taken easily in very simple sets. Because both of these animals go in a big way for carrion wherever they can find it a flesh bait of almost any kind will entice them to the trap, and if the bait is tainted it has even more drawing power. Along up-grown fence rows are good places to catch either of these two fur-bearers, for the chances are that every skunk and opossum in the neighborhood will wobble up or down along them in search of food. To make an effective set the trap should be placed in any favorable spot and the bait suspended about eighteen inches directly above the trap. Caution should be exercised so as not to make the set in an animal trail because in almost any fence row there occur other well worn paths used by rabbits and other small game animals and birds.



Fox traps, showing stakes and a grapple. Left, home-made steel stake; center, home-made steel grapple; right, stake made by trap manufacturer.



A young trapper displays two red fox pelts.

Mink-Raccoon Sets

To trap the mink and the raccoon most successfully the trapper resorts to blind water sets. Both of these animals do a considerable amount of hunting for food along the shores of streams, lakes and in their tributaries. However, it should be remembered that muskrats frequent the waters extensively and, while they come in season later, sets intended for minks and raccoons should be made in places where muskrats are not apt to be caught and away from natural muskrat habitat. There are many such places that fit particularly well into the scheme of mink-raccoon setting. It is a good policy to bear in mind that open places about farmlands, such as grassy shores, water-lilly and cat-tail areas are natural muskrat environment and if muskrat sign is evident the thoughtful trapper goes up or down stream and selects places that contain a lot of wood growth and little or no natural muskrat food. Traps are set in the water in places that approximate a depth of two to three inches at such spots where natural obstructions such as high banks, big stones, tree roots and similar barriers cause the animal to enter or come out of water.

Traps are also set in the middle of the small branch streams that flow into a larger body of water. In order to force the animal into the trap these little branch streams are fenced off crosswise with sticks set in an upright position on both sides of the trap, if the width of the water requires it.

Traps are also set in hollow logs, under rock ledges, under overhanging banks, on logs that span the streams and any other of the various places along the water that show evidence of being used by raccoons and minks.

Bait sets may also be used with a fair amount of success. The flesh of domestic fowl, rabbit and fish are considered good. The bait is affixed in such a manner so that the animal in attempting to get at it is forced into the trap. Suspended bait should be about eighteen inches above the trap, and the trap should be under water.

The fur harvest season is not so very far off now. Learn to know the fur laws before you set traps out in the woods, and then have respect for them. Don't trap too early or out of season; don't set traps at holes in the ground, on trails or paths where small game animals or hunting dogs are likely to get caught. Play the game according to the rules and you will have no regrets later. Be a sportsman—respect the rights of property owners and other trappers.

THE ANTLERLESS

PENNSYLVANIA is not the only State in the Union which will have an antlerless deer season this year. New York and Wisconsin State hunters will also have open seasons, Wisconsin for the first time in its history and New York for the first time in a quarter of a century, except for a limited season in one county in 1941. Six Adirondack counties in New York will have a 6-day season running concurrently with the first 6 days of the regular deer season, with a 3-day season in two lower Hudson River counties and 13 southern tier and western counties the week following the close of the regular season. Special licenses will be required which will be good only in the county in which issued. Under the new Wisconsin ruling bucks with forked-horn measurements, as in the past, will be legal for 4 days then will follow a 3-day rest period when no deer of either sex may be taken. Then for the next 4 days antlerless deer will be legal in 20 counties where investigation has shown over-browsing conditions resulted in starvation of large numbers of deer last year, as well as severe damage to forest land.

To the residents of other States an antlerless deer season may seem a very strange and unusual departure from regular deer hunting seasons, but in Pennsylvania this program has been in effect for a long time, and a brief summing up of its problem and its background would be very much in order at this time.

Brief Background and The Present Law—Following the passage of the 1907 Buck Law, the first authorization for the killing of antlerless deer was enacted by the 1923 Legislature. That Act provided for the issuance of special permits at $5.00 each to remove surplus deer from areas where excessive damage was being done to orchards and farm crops, or where the sexes were unbalanced. Since then the plan has been modified by the Legislature from time to time, and permits have been issued primarily where the removal of surplus animals from restricted areas was found necessary. The Commission has never applied the permit plan as a control measure when a statewide surplus of deer existed.

In 1937 it felt that the permit plan should be invoked in 25 counties so as to prevent overcrowding of hunters in any of them, also to assure the removal of the surplus animals (1) from those portions of the Commonwealth where the farm damage problem was most acute, or (2) where it had been determined that forage conditions in the forests were critical. Due to the fact that sportsmen and landowners alike were required to obtain the $2.00 permits then required by law, also because they did not fully understand the Commission's objectives, the proposed 1937 antlerless deer season was thrown into the Courts. It was voided purely on legal technicalities incident to advertising, and only the antlered buck season was in effect that year.

In 1938 the Commission found it necessary to reverse the seasons, as had been done ten years earlier, without applying the control permit plan. That year only deer without visible antlers were legal. The Court upheld this action, and clearly sustained the Game Commission's regulatory responsibility. The following year the regular buck season was held, with a short antlerless season in a few counties where insufficient deer had been removed in 1938. In 1940 the Commission again was obliged to allow the killing of all deer, except spike bucks, throughout the entire Commonwealth, as had been done in 1931. For the seasons of 1941 and 1942 the regular buck seasons only were declared.

The 1939 Legislature, taking cognizance of the objections raised two years before, modified and clarified the law with reference to the permit control plan, reduced the fee to $1.00, and authorized certain landowners to hunt antlerless deer without permits. That amendment also provided a lawful method for the abrogation of the Commission's action. The Game Law now in effect stipulates that:

> *"If in any year the Commission . * * * declares an open season for antlerless deer, it may, in its discretion, issue permits to hunt for or kill such deer, at a fee of one dollar under such rules and regulations governing the issuance of such permits as it may deem necessary to limit the number of persons who may hunt for such deer in any portion of the Commonwealth * * *.*
>
> *"When such permits are issued to restrict the number of persons who may hunt antlerless deer in any designated portion of the Commonwealth, any citizen of the United States residing within the Commonwealth who is a bona fide owner or lessee of lands which lie within the area declared open to the hunting of said deer, or any member of the family or household, or regularly hired help of such owner or lessee, if such person is a citizen of the United States, actually residing upon and cultivating such lands, is hereby declared eligible to hunt without a special deer permit for such antlerless deer upon said property, and, by and with the consent of the owner thereof, upon the lands immediately adjacent and connected with his own lands, other than lands owned by or under the control of the Commonwealth." (NOTE: Federal authorities advise that permission is not granted to hunt on adjacent federal lands without the required special deer permit and the regular hunting license, so that in effect the clause above applies to all "publicly-owned lands".)*

From the above it will be observed that it was clearly the intent of the Legislature that the Game Commission *shall issue permits* whenever in its opinion it is necessary to avoid overcrowding as well as overshooting in a given area; that no provision is made for the issuance of such permits by any other agency; and that the Legislature decided to encourage landowners to help in the removal of animals which are causing them damage.

How Need For Season Was Decided—Past experience clearly indicates that the deer herd under normal conditions increases very rapidly. During the 1941 buck season the



Photo by C. Gordon Krieble.

A lucky hunter and his companion snapped near English Center during the season of 1938.

DEER SEASON

kill was lower than anticipated due to the very unfavorable hunting weather. The 1942 kill was low because so many hunters were prevented from enjoying their usual stay in the deer country due to industrial and other war conditions. Months ago it became evident deer were again becoming too numerous in some counties, and that steps would have to be taken to relieve this condition.

All field officers of the Commission closely observe game conditions in their districts throughout the year. They are always in close touch with damage complaints from farmers and orchardists. During the recent winter and early spring months such officers made special observations and reported their individual findings. In April the reports from every district in the Commonwealth were assembled and discussed at field division meetings. Later they were further analyzed at a special Staff Conference in Harrisburg, following which tentative recommendations to the Commission were agreed upon by the entire group. Those confidential recommendations were then submitted (on April 20) to the Members of the Commission, as well as to the leaders of the Federated Sportsmen and other groups, for further study. The recommendations pointed out the necessity for the removal of the numbers of antlerless deer indicated in the resolution appended hereto, and suggested the issuance of control permits for the reasons previously stated.

Representatives of the organized sportsmen and others were encouraged to discuss said recommendations informally with their various groups, and the Members of the Game Commission likewise sought as much additional information as possible on the subject. The leaders of the organized sportsmen were requested to submit during the intervening three months any recommendations, through their own channels, that they might desire to make for the Commission's consideration. All such suggestions were given careful study by the Commissioners before they took the necessary legal steps to establish the 1943 seasons and bag limits.

How the Number of Permits Was Determined—Based on the Commission's past experience in issuing permits for the removal of antlerless deer, it has been found that in normal times it requires three permittees on the average to assure the removal of one antlerless deer. This is especially true if the season for such animals is held after the regular buck season. The Commission, therefore, determined that under present war conditions it would be necessary to issue at least five permits for each deer to be removed this year, even though a number of farmers might kill some without permits. It was felt for example, that many persons who obtain permits might bag a buck, therefore be unable to use their permits because the law clearly prohibits a person from killing more than one big game animal of the same species during the year. It was further recognized that many permit holders would at the last minute find themselves unable to be absent from their daily duties, or be inducted into the Military Service, or that weather conditions might be unfavorable for antlerless deer hunting.

Why Not Issue Permits Within the Counties?—Some few residents of the eight counties involved have asked this question, feeling that they should have first preference in obtaining permits. The wildlife of the Commonwealth belongs to all the people, and under the law all of its citizens must be given equal opportunity to enjoy the privilege of hunting it. No provision is made by the Game Law for the issuance of permits *except by the Game Commission,* nor is any provision made to compensate other agents for services rendered.

In order to handle the task of issuing the permits, with an equal opportunity for and the least possible inconvenience to all applicants, *it is necessary to centralize that responsibility at one point.* In that manner an applicant who designates a second or a third choice on his application may be issued a permit without delay in case the supply of permits for the county of his original choice is exhausted when his application arrives. Under any other plan applicants would be subjected to an endless amount of trouble and delay in finding a source from which they might still be able to secure a permit, and chances are that they might fail to obtain permits at all, even though they had applied far in advance of many others.

The permits will be issued on the basis of "first come first served," so that those who are anxious to obtain them should endeavor to file their applications promptly on or after the date fixed in the regulations. namely, *October 1, 1943.* It is naturally hoped that the residents of the counties opened to antlerless deer hunting, who are in the best position to know just where the farmers are experiencing the most damage, will file their applications early.

Consideration was given to the possibility of having the Commission's field employees in the eight counties issue the special permits, but this would not be practicable for the reasons above enumerated. Also, during that particular season of the year all Game Protectors are in the field almost constantly, and it would be physically impossible for them to handle the issuance of such permits. These employees are not furnished office space or clerical help, and at present many of them are doubling up to discharge duties of fellow officers in the military service, so that they could not perform the duties for which they are regularly employed if they were compelled to issue the permits.

Where Applications May Be Obtained—As promptly as possible after the printer delivers the supply of applications, an adequate number of them will be shipped to all officers of the Game Commission, to all County Treasurers and other hunters' license issuing agents, and to individual applicants upon request to the Harrisburg office of the Game Commission.

How May Groups Obtain Permits for the Same County?—Groups desiring to hunt together for antlerless deer should *mail their applications in the same envelope,* preferably with one remittance covering the entire group. In that event the second and third choice selections must be the same on **all**

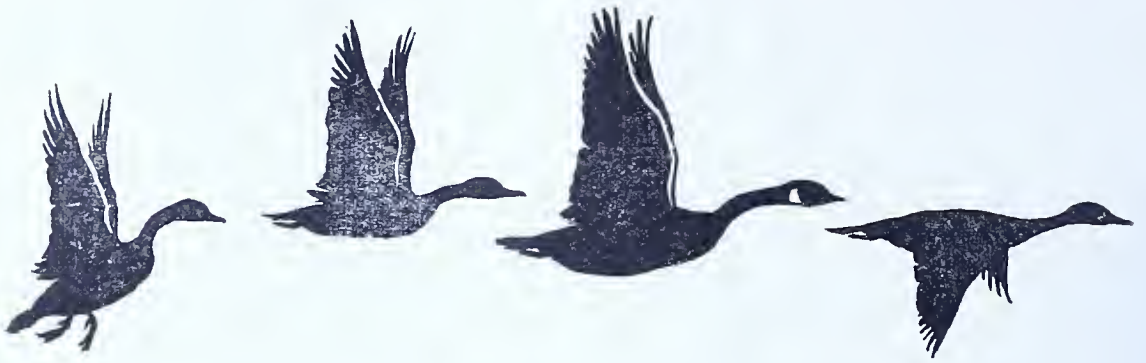
(Continued on page 30)



Photo by W. L. R. Drake.

Automobiles and portable camps such as this will no doubt be conspicuous by their absence this deer season.





Pass the Ammunition

ONE of the truly great lessons of this war is the fact that the way of life that is America develops a breed of men who have the power, vision and ability to master whatever problems are thrust upon them.

Among the foremost of his powers is his ability to master the tools of war and to out-fight the enemy. Back of that ability lie the years of training which Americans have received as sportsmen afield with their guns. Their ability to shoot has become an inherent instinct through generations of living with firearms.

The right to possess and use firearms is one of the inalienable rights in our Constitution.

Life, liberty and the pursuit of happiness. Millions of our boys are fighting to preserve them. And many others are working on the home front to make it possible for those other millions to fight. Each is helpless without the other—each is as vital to the preservation of those rights as the other.

Among those who fight are millions of sportsmen—men who grew up with guns and have the instinct to use them. Men who love the great American out-of-doors and are fighting so that, some day, they may come back to again enjoy that out-of-doors.

Among those who work on the home front are more millions of sportsmen who are toiling for the same Cause. They, too, want to preserve and enjoy that beloved out-of-doors. To all of them, the fighter and the worker, the conservation of our natural resources and wildlife is of vital importance. It is one of our priceless heritages.

The conservationists of the country are striving valiantly to carry on the more important phases of their programs in spite of almost insurmountable handicaps. Budgets have been drastically curtailed, man power is at a premium, and governmental edicts have restricted their activities to a dangerous minimum. Facilities are almost impossible to obtain because conservation, in terms of the out-of-doors, has no priority rating.

There are three outstanding reasons why conservation is of such vital importance to the immediate future, in addition to its value as a commonsense investment in the future well-being of our nation.

Yet there are people who seem oblivious to these reasons, or indifferent, because they are trying to use the war to do those things which they could never do in peace times. They declare conservation is a non-essential and are planning to confiscate the conservation funds for other purposes. Bills are now before Congress, bills which would despoil our national parks, deplete our wildlife and allow private interests to profit at the expense of the national welfare. This type of commonsenseless conservation is cloaked under the guise of war emergency.

These bills must be fought and defeated. Real conservation must go on.

The first reason is what it will do for those in our armed forces—the boys and girls who are sacrificing their hopes for the future to assure our way of life for us. For them, conservation must go on. If it doesn't, they will come back home to an empty victory. They, too, need and want our great out-of-doors—they are fishermen and hunters and nature lovers, the same as we are. Millions of them are dreaming of the day when they can once more enjoy their native haunts, live with Nature, fish their favorite waters or tramp the fields, dog by their side and gun in hand. We owe it to them to keep the faith and make it possible for them to realize their dreams. That is one of the priceless heritages for which they are fighting.

Of even more immediate value to those returning after the victory, and to many now in war work, are the real opportunities for work during the reconstruction period which conservation will offer. While not



By Fred Everett

Illustrated by the Author

much publicity has been given to the facts, our conservation leaders have been far-sighted. At the beginning of the war, they were among the first to start planning for the future, "after the war" period. New projects have been carefully laid out. Every possible conservation job that could be held over has been pigeon-holed until the boys come home. All new construction, land improvements, reclamation work and other necessary projects are in the budgets and ready for instant action. Work for thousands of our boys to carry them through the reconstruction period is waiting.

It would be a crime against them to allow shortsighted, self-seeking or misguided propagandists to gain their ends now and rob the nation of this opportunity to save the returning heros from selling apples on the street corners, as happened after the first world war.

The second reason is the value of conservation to the war worker and, through him, to the war effort. I have written before and now repeat, the attitude of those in power toward the man in uniform and the man in overalls is out of all proportion. Billions are spent on those in the service to build and retain their morale and well-being. They should be. On the other hand, *it is just as important to build and retain the physical well-being and morale of those on the home front!*

A sudden change has come over the home front. June and July apparently saw a real drop in war production. The authorities blame it on over-confidence. I do not believe that is the only cause. *It is the result of the loss of morale and the lack of physical ability to keep up the pace, due to overwork without the right to relax and recuperate.*

As a nation, we have been and still are outdoor-minded. Our recreation, one of the bulwarks of our health and ability to work, has been contact with nature in one form or another. Outdoor games, trips, hunting, fishing, nature studies, camping; innumerable types of activities which have been a vital part of our lives. When we have these things, we are physically fit. Without them, we lose our productive ability.

For my own part, I know from experience that I can produce more and better work in a day after a trip out of doors than in two or three days after a long period without such trips. The same is true with all who have developed their physical and mental abilities in our way of life before this war.

Conservation is wise use. The home front would be better conserved if it were more wisely used. What could be better conservation than to allow the mass of workers the opportunity to relax in the great out-of-doors, where the majority have always found their rejuvenation? This privilege is one of the liberties that the sportsmen in overalls are working overtime to preserve.

Over and above the fact that such trips will build health and morale on the home front, thus directly aiding in the war effort, there is another important reason why the time and means to travel and the ammunition with which to hunt should be alloted to the sportsmen. This reason is based on three facts which will have a real influence this winter on our national well-being.

Just as the victory gardens have helped solve the vegetable problem, so will the game the hunter bags aid in relieving the food shortage. The amount of meat made available for the table each year is far beyond most people's conception. One deer will keep a family in meat for months. Multiply that by the number of deer killed each year in all the states and the poundage is astonishing. Add to that the millions of rabbits, game birds and waterfowl and other game brought to bag and you have an amount of food that can feed the whole nation for many days.

Another consideration is the amount of deerskins, furs and even feathers from the ducks and other wild fowl which are desperately needed both for home use and for production for war purposes.

Also add to these the amount of fat from game animals and furbearers which the conservation departments are encouraging the sportsmen to collect on an even greater scale than last year. This fat is a most important contribution to the war effort.

These considerations alone are enough to justify the plea for the privilege and means to hunt this fall. Put all the benefits together and there are no adverse reasons which can outweigh them.

This is not an idle boast to gain the right to go hunting. It is based on facts and figures too large and fundamental to be denied. Hunting will build health and morale! It will help fill the larder! It will be a vital force for the war effort! It will help preserve the nation after the war!

Let us hope that, ere the hunting season begins this fall, at least some of the recent restrictions can be lifted to permit enough travel to and from the fields, and enough ammunition released, to make it possible for every sportsman, who needs the recreation and who desires to aid the war effort and the well-being of our nation, to enjoy the health-giving, morale-building and food-producing privilege of hunting.

For this vital service, pass the ammunition!

When Rabbit Huntin's Good

By J. V. Daily

When the autumn leaves are fallin
And the great outside is callin
When the pheasant booms and thumps out in the wood
When the gray the leaves are rustlin
And the red the nuts are hustlin
That's the time that rabbit huntin's good!

When the woodchuck's in his burrow
And the frost lies in the furrow
When the country lassie dons her woolen hood
When the woodpecker is tappin
And the chipmunk is a nappin
That's the time that rabbit huntin's good!

When with plenty ammunition
An the ole gun in position
When the hounds pick up the trail in best of mood
When the bunch of them start yappin
An about you guns are crackin
That's the time that rabbit huntin's good!

Hunting Ammunition to be Available Soon

The question which hunters everywhere have been asking themselves for the past several months, namely, will any shotgun and rifle ammunition be available for hunting this Fall, can now be answered.

The contents of War Production Board regulation No. L-286-a, recently addressed to sporting goods and other dealers in arms and ammunition, provides that anyone desiring to purchase shells or cartridges this Fall may do so between October 1 and November 15 but that no individual will be allowed more than 25 shotgun shells, 20 center-fire rifle cartridges, and 50—.22 cal. long rifle cartridges. The regulation also provides that every individual requesting ammunition file a certificate with the seller to the effect that his present stock of ammunition on hand or on order from all sources, including the special quota above mentioned, does not exceed one hundred .22 caliber rim fire cartridges, 20 center-fire rifle cartridges, or 50 shotgun shells.

Whether or not the allocations made to Pennsylvania dealers will meet the minimum needs of those individuals coming within the above category is a matter of conjecture. The Commission hopes they will. When the countrywide allocations of ammunition were made tentatively sometime ago, on the basis of hunting licenses issued by the several states, special consideration was given to the states that have big game hunting, of which Pennsylvania ranked third with an allotment of 825.000 center-fire rifle cartridges, and second with an apportionment of approximately 6,000,000 shotgun shells. Figuratively speaking, this is a generous share of the countrywide quantity made available, and Pennsylvania nimrods should get through the season without too much hardship—that is if everybody plays the game honestly and shares supplies on hand with fellow sportsmen. The responsibility rests with each individual hunter, and the Commission hopes that every nimrod will do his part so that the other fellow will have an equal opportunity in the field this season.

You Belong to Me

When my daily work is done
I hurry home to you,
You meet me at the garden gate
Never failing, ever true.

We sit together on the lawn
The lovely sunset view.
I place my hand upon your brow
And pledge my love to you.

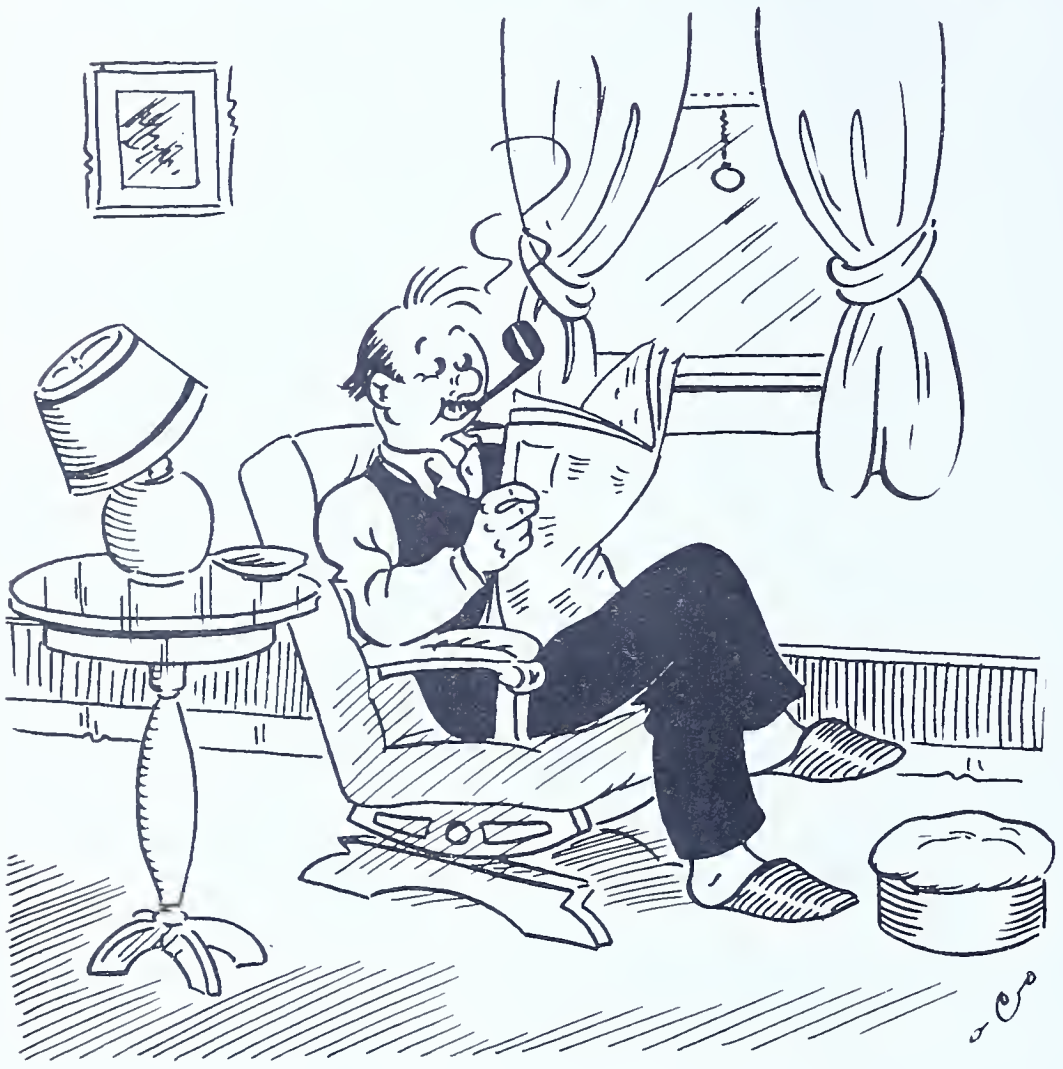
Your eyes, deep wells of mystery,
With loving rapture beam,
You reach and gently touch my hand
Yet disturbing not my dream.

Oft you raise your voice in song
So beautiful to hear
I gaze upon your lovely face
And listen and revere.

'Tis then I always realize
How much you mean to me,
The finest dog in all the world
To me you'll always be.

Stanley Novak.

HUNTING THE HEADLINES



We began to see such news items from the game areas as—

READERS of the PENNSYLVANIA GAME NEWS may recall some of the controversy that raged among the hunting fraternity, the nature lovers, sportsmen's groups and others interested in our wildlife (the term wildlife pertains only to the outdoor variety) through the 'thirties'. Some of you may have taken part in the issue on one side or the other. It could be you even defended your own personal opinions in the chest-pounding, table-thumping orgies that ranged from the loneliest mountain cabin to the polished desks of Harrisburg.

Although the fire and thunder are gone from the arguments, or have at least been diverted to a bigger problem, you can still find a few of the boys ready to flare up and resume the battle. However, most of them are more interested in a new and more important type of gunning, vermin shooting of the brown-skinned, slant-eyed variety at which they are also very adept.

Without stirring up any old skunk dens, lets review some of the journalistic labors of the headline writers that appeared in the news during those famous by-gone days.

Away back in 1928, when the Board of Game Commissioners and many farsighted outdoorsmen, foresaw with alarm the rapid increase in Pennsylvania's famed deer herd, and proposed an open season on does a great hue and cry was raised that was to be standard equipment with the fur, fin, and feather faction for over a decade.

We began to see such news items from the game areas as:

Doe Slaughter Unnecessary, Say Veterans

Over 500,000 resident and non-resident licenses were sold for the year of the first season on does only. It was said that deer would be very easily slaughtered. Does would walk right up to a hunter to be shot like herded cattle. However only 25,097 of the 'tame' females were converted to venison, so it can be safely assumed some of the boys were highly disappointed.

Adding insult to injury, the Commission declared a three day open season on does in 1930. This was prior to the regular buck season. Voices were again raised in protest —and volume—

Self-styled experts were howling to high heaven.

"It will be the end of deer hunting for years to come."

"All that bunch in Harrisburg cares about is the money they will take in."

Remember?

The three day open came in with a great hullabaloo. The boys figured there would be a terrific toll taken. I know because I was one of 'em.

The three day season on does, however, netted only 5,979 females of the species, while the regular buck season found 20,115 shiney pairs of antlers brought home to be nailed above as many mantles or garage doors.

The herd was not exterminated.

A year later came 1931, and with it the startling line from Harrisburg:

Overpopulation Necessitates Killing of Does

But the venerable 'veterans' were not to be outdone. Almost in the same issue we read:

Baby Slaughter Unnecessary, Say Veterans

The Commission lowered the bars for a two week period on both sexes. In that period 70,255 does and 24,796 bucks were dragged home in various stages of preservation. Up to that time, this was the greatest, and most successful, season in the history of Pennsylvania's annual deer hunt. 95,051 deer dragged from the hills of the game country would surely mean the end of good hunting. Did not the 'experts' themselves predict it? Yet the following summer found complaints pouring into the Commission's office in Harrisburg asking payment for crop damage and permission to kill deer found destroying grain fields and truck gardens.

The herd continued to increase, and as a result the natural forage of Odocoileus Virginianus became very scarce in many localities. Deer were forced to forsake the natural foods to which they had been accustomed and feed on such growth as staved off actual starvation perhaps, but which furnished very little nourishment. The ever hungry heard naturally took to raiding the farmers succulent fields. Experienced, far seeing outdoorsmen recognized the danger of these conditions and were very persistant in their pleas for a reduced herd. The Game Commission after being deluged with vague suggestions and 'workable plans' concluded that the open season was the only real solution to the problem.

In 1935, after a careful survey—based on farmers complaints and field reports—the Commission declared 14 counties open on antlerless deer following the regular buck season. The ink was hardly dry on the official declaration when the old familiar howls were heard:

"Refuse to Kill 'Cows,'" Says Old Woodsman

After the slaughter of 'cows' had been completed and reports had been tabulated, we read with lifted eyebrows that 46,668 does and 23,802 bucks were on the casualty list.

The tempest subsided somewhat, that is, it got a little quieter after the artillery was oiled up and put carefully away. We heard very little about the deer problem in the news columns, but we did see some very hot oral battles that very nearly led to bloodshed wherever two or more deer hunters got together.

During the next two years however, unbelievably large herds were reported. If you dont think so, just take a gander through the back issues of some of the papers from the big game areas at that period. You will find such items as:

By Lewis D. Reddinger

Driver Escapes Injury as Deer Wrecks Auto
Farmers Want Aetion on Deer Damage

Those were the popular headings in the game country papers back in the days of gasoline and tires. Yet it had been predicted each previous season that good hunting was at an end.

By 1938 the problem had become acute. Something had to be done. While the Commission was squirming between two fires, carefully taking into consideration both sides of the issue, which by now was becoming nationwide, something new was added by way of eliminating part of the swelling herd.

Deer Die Without Guns. Mysterious Malady Seen in Game Zone

Of the forty-nine or more dead deer reportedly found in the locality, game officials declare only about a dozen were actually discovered. Similar findings had been reported in previous years but eyewitnesses were a little vague when asked for information. What caused their untimely demise is still a mystery.

The Commission finally decided to take the most feasible route open. An open season was declared on does only. All counties were thrown open from November 28 to December 3.

Shortage of 1940 Deer Predicted

After the first two days had passed, days of extremely heavy shooting they were too, and deer carcasses were flowing out of the hills in a seemingly endless stream, we read;

"Shortage Faced for Years to Come" Say Veterans
"Herd Will Snap Right Back in Two or Three Years" Says Game Commission

The destructive season finally faded into oblivion. Lamentations were long and loud. The herd was utterly destroyed. Pennsylvania was a 'has been' as far as deer hunting was concerned.

Then from the very heart of the Big Game Country came a sensational announcement:

Open Season Fails to Cut Herd Seriously

This was all a scheme. It just couldn't be.

Several more days passed, and we read with wonder:

State Forests Still Have Big Herds of Deer

From officials of the Allegheny National Forest we heard more astounding reports:

Census Reveals Great Herds
"Not All Does Killed" Say A. N. F. Officials

In spite of the reports of Game and Forest Officials that deer were still in abundance in many sections of the state, some of the boys were kind of hide-bound in their belief that the herd was ruined for years to come. "Sure they will tell you there are plenty of deer yet, they want to sell licenses before the fellows wise up." While such arguments were making the hunting cabins, tap-rooms, and sundry other meeting places of the Great Hunting Fraternity jingle, we saw this little gem in one of our big dailies.

Autoist Flees Deer Charge, Kills Animal, Then Herd Thunders Over Him

Directly in the path of a herd of charging deer, H—— S—— of O—— narrowly escaped serious injury last night. He was driving along Plumer-Oleopolis road when a deer suddenly leaped from the woods. The car struck the animal. Walking back to where the deer was hit, Mr. S—— could find no trace of the animal. Then he heard a rustle in the woods, looking up he saw four deer charging toward him.

Presence of mind saved him from serious injury. He threw himself flat on the ground. The deer leaped directly over him, crossed the road continuing their dash into the woods on the other side.

Deer so Plenty They Crash Bus

Autoists Asked to Save Deer

Buck Crashes Shop Windows, Causing $1,000 Loss

Big Baby Deer Destruetion is Seen in State Fear Herds Will Be Ruined

All this in spite of the dire predictions made annually by well meaning but misinformed groups, who visioned only the sleek forms as they dashed majestically through the laurel thickets, or who on a snappy December morning watched a nice buck come slowly and cautiously into the sights of a shiny Remington or Winchester. They are never to be forgotten sights. But then neither is a thin, emaciated, wobbly creature in early spring that barely managed to live through a long hard winter. Prey to disease, the bot-fly, and scores of dogs that are left to roam the woods throughout the summer months.

Meanwhile;

Grange Asks State To Pay Deer Damage
Herds of Deer Face Disease in Kane Area To Save Game Animals

After it was officially announced that does as well as bucks would be legal prey over the entire state in 1940 we began to see items such as

Attempts to Halt Doe Slaughter by Petitions Bog Down

Almost in the same issue however we read this one:

Pennsylvania Deer Invading Ohio for Food
Jefferson County, (Ohio) Overrun by Starving Animals

Buell Patterson, popular authority on dogs and hunting, once said in a column on Game and Hunting:

"Pennsylvania has for years set an example for other states by having a sound deer policy which produces deer. The hunting possibilities are excellent. Does as well as bucks have been the targets for Pennsylvania's hunters, but the deer population stays up."

After various petitions had failed to halt the killing of does, the boys hung up their shotguns, took down their rifles and hied themselves off to the brush on what proved to be the greatest deer hunt in the history of Pennsylvania.

The dawn had barely lighted the eastern sky on the first day of season when tales of all kinds began pouring out of the woods.

(Continued on page 28)



"It will be the end of deer hunting for some years to come, . . ."

OUTDOOR WRITERS MEET



Photo H. T. Wieand.

Though the ground be covered, the trees laden, and the stream-sides icicled, the true outdoorsman will be afield drinking in Nature's beauty.

THE Summer Meeting of the Outdoor Writers Association of America for 1943 brought out a most representative attendance despite all of the war-time restrictions and difficulties of transportation. In all 106 registered for the meeting with the largest delegation of course coming from the host state of Tennessee. However, well on to seventy-five percent of those present were from other sectors of the country including representatives from Alaska and Canada and an observer from the official British colony at Washington.

The Tennessee Outdoor Writers Association and the Department of Conservation of Tennessee were joint hosts for the occasion and headquarters for the conference were housed in the High School in Tellico Plains, which is the gateway to the famous Cherokee National Forest, wherein are located the Tellico Wildlife Management Area and the Great Smoky Mountains National Park, as well as parts of the system of the Tennessee Valley Authority.

Three general meetings and a session of the Board of Directors of the OWAA were held on Friday, June 25 and a huge Campfire and Barbecue under the auspices of the Brotherhood of the Jungle Cock was carried out Saturday night, June 26.

In every way, in point of attendance, amount of work accomplished and general enjoyment the conference was well worth while and will be long remembered by all who were present.

Resolutions

Resolutions adopted are as follows:

By Len Hoffman of South Bend, Indiana, a resolution endorsing the plan for the restoration of the Kankakee Marsh in Indiana.

By Raymond L. Brown, editor of *Outdoor Life,* a resolution calling for the defeat of Senate Bill No. 1152 now in committee in the United States Senate, which bill would throw open the country's National Parks and Forests as well as other public domains to private interests for private gain.

By Kenneth A. Reid, executive director of the Izaak Walton League of America, a resolution seeking to stop the pollution of the country's waters by denying any municipality or private group or institution any funds during the post-war construction period unless already provided with or ready to provide adequate modern sewerage systems.

By Arnold J. Stewart, of Wilmington, Delaware and a member of the Atlantic Coast Marine Fisheries Compact Commission, a resolution calling for the taking over by the Federal Government of the supervision of all migratory food and game fishes through the medium of the Transportation Act (now in preparation) as a stop gap until such time as a treaty may be made with Canada for migratory fishes.

By Arnold J. Stewart, a resolution calling upon the Atlantic Coast Marine Fisheries Compact Commission to realign their present set-up so as to give a better representation to the sportsman-angler.

Winter Meeting

So as to avoid any conflict of dates, President Ivar Hennings of the Izaak Walton League, agreed that his organization would meet in Chicago the last week-end of March, 1944 and following a discussion from the floor, upon motion by Joe O'Byrne and seconded by Kenneth A. Reid, it was decided to hold the 1944 annual meeting of the OWAA the last Monday, Tuesday and Wednesday of February, in Columbus, Ohio.

George Landis was appointed General Chairman for the committee of arrangements for the annual meeting and Ray Howard, Director of Information for the Ohio Conservation Commission was commissioned to develop plans for a moving picture educational demonstration as part of the program.

At the Friday evening session President J. Hammond Brown made the William Baxter Award presentation for the year 1941 and 1942. He gave a full recital of the incidents that led to the offering of such award annually by William Baxter of Wilmington, Delaware and explained just why the awards for 1941 and 1942 were delayed in their presentation, although the recipients had been duly chosen by the Board of Judges in charge of recommending the awards, which board consists of the Honorable Frederic C. Walcott, President of the American Wildlife Institute; Dr. Ira N. Gabrielson, Director of the Federal Fish and Wildlife Service and Dr. T. Gilbert Pearson, President Emeritus of the National Association of Audubon Societies.

These awards are presented for some exemplary service to the conservation effort over and beyond the call of duty and only accredited outdoor editors who are members of the OWAA are eligible to receive it.

The award for the year 1941 was then presented to Arnold J. Stewart, outdoor editor of the Wilmington (Del.) *News-Journal* with the following citation:

> All packed up and awaiting train-time to join a group of friends for a fishing trip to Maine, Arnold J. Stewart of Wilmington, Delaware, when he received word that there was an outbreak of a strange malady among the wild ducks feeding on the Delaware river marsh back of the city of Wilmington, forgot all about his trip and when arriving on the scene he found conditions even worse than his first information suggested, rallied his townsmen and went to work to fight the first extended outbreak of botulism recorded for the Eastern States. With all Federal and State conservation officials away from the State attending a conference in Boston, he took over and organized men and boys into groups to rescue the wild ducks from the polluted marshland and carry them to pure water. In this manner hundreds of ducks were saved.
>
> With steadily arriving hordes of ducks to the polluted marsh waters, he went on the radio and appealed to the sportsmen of Delaware, Maryland and Pennsylvania to come and give a hand and then gaining direct contact with the White House, asked President Roosevelt to see that official aid was sent at once. There was immediate action. Men were stationed with shotguns loaded with blanks to frighten away the newly arriving wild ducks and later by opening a dyke, fresh water was flooded into the polluted marsh and in a short time the further menace from an outbreak of botulism was removed, all because one man recognized the danger in time knew what should be done and saw that this was done, a most exemplary service in the conservation of wildlife over and beyond the call of duty.

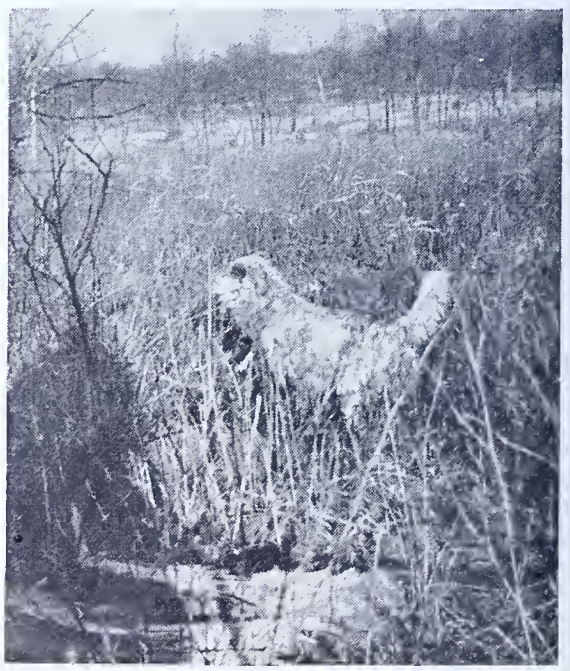


Photo by M. J. DeBerti.

"Red Dawn" pointing grouse in Forest County, season of 1941. Mr. DeBerti is the dog's owner.

The award for the year 1942 was then presented to John Martin, outdoor editor of the *Atlanta Constitution.* In the absence of Mr. Martin, now in the service of his country, the award was received by his close friend, Charles Elliott, Conservation Director for the state of Georgia. In making the presentation, President Brown made the following citation:

When through a series of political machinations, the state of Georgia found its conservation set-up disintegrating, with constant raids upon the renewable natural resources of the state by selfish interests for personal gain, John Martin, outdoor editor of the *Atlanta Constitution* concluded that the time had come when the people should be aroused to enormity of the situation.

Organizing groups of sportsmen and conservationists in each county of the state, he began a campaign for decency in the management of the natural resources of the state including its wildlife.

With a Gubernatorial election looming, for the first time in the history of our nation, the matter of decency in conservation became the deciding point of an election.

The campaign speedily became the all-absorbing topic in the state of Georgia. Mud slinging became rampant and John Martin became the target of every political machine orator in the state. With the solid backing of his paper, The *Atlantic Constitution,* he traveled thousands of miles, mending breaks in his forces at one spot, rebuilding demolished bulwarks in another.

Day and night he went up and down Georgia, calling upon the people to oust those who had dragged the fair name of the state in the dust and promising on behalf of his candidate a conservation set-up completely removed from politics.

John Martin won his fight and today Georgia takes its place among those few states that are blessed with a conservation establishment entirely removed from the machinations of politics.

All of which came about because a Georgia outdoor editor placed decency above gain and was not afraid to fight for what he considered the right thing to do, an exemplary service to conservation far and above the regular call of duty.

In receiving the award on behalf of Mr. Martin, Mr. Elliott stated that he would personally see that it was delivered at once to him at Cornell University where he is attending a Candidate Officers Training School.

Upon motion from the floor, which was duly seconded, the Governors of Ohio, Georgia and Tennessee were made honorary life members of the OWAA. In announcing this fact, President Brown briefly explained that it was hoped that this honoring of three Governors for their exemplary work on behalf of modern conservation ideals would be an incentive for the other chief executives of the other states of the Union.



Business Opportunities

Investors Wanted: For every $18.75 in cash invested in my business I will return $25 at the end of ten years.—Uncle Sam, c/o U. S. Treasury.

Fur-Sealing operations in the Pribiloff Islands, secret in 1943 because of their proximity to military operations, have resulted in a record take of *117,164 skins,* the Fish and Wildlife Service reports. This is the largest ever made under government controlled sealing, and *an increase of 22,151 over 1941.* Last year, only 127 skins were taken, as military authorities ordered the Pribiloffs evacuated shortly after sealing operations began.

PENNSYLVANIA MIGRATORY GAME SHOOTING HOURS FOR 1943

(Under Federal and State Laws Combined)

Eastern War Time — Harrisburg Data*

Day of Month	September Shooting Day		October Shooting Day		November Shooting Day		December Shooting Day	
	Starts A.M.	Closes P.M.	Starts A.M.	Closes P.M.	Starts A.M.	Closes P.M.	Starts A.M.	Closes P.M.
1	6:05	7:39	6:33	6:50	8:00	6:00	8:00	5:42
2	6:06	7:37	6:34	6:48	8:00	6:00	8:00	5:42
3	6:07	7:36			8:00	6:00	8:00	5:42
4	6:07	7:34	6:36	6:45	8:00	6:00		
5			6:37	6:43	8:00	6:00		
6	6:09	7:31	6:38	6:42	8:00	5:59		
7	6:11	7:29	6:39	6:41				
8	6:11	7:28	6:40	6:39	8:00	5:57		
9	6:12	7:26	6:41	6:37	8:00	5:56		
10	6:13	7:24			8:00	5:55		
11	6:14	7:23	6:43	6:34	8:00	5:54		
12			6:45	6:32	8:00	5:54		
13	6:16	7:19	6:46	6:31	8:00	5:53		
14	6:17	7:18	6:47	6:29				
15	6:18	7:17	6:48	6:28	8:00	5:51		
16	6:19	7:15	6:49	6:26	8:00	5:50		
17	6:20	7:12			8:00	5:49		
18	6:21	7:11	6:51	6:23	8:00	5:49		
19			6:52	6:22	8:00	5:48		
20	6:23	7:08	6:53	6:21	8:00	5:47		
21	6:24	7:06	6:54	6:19				
22	6:25	7:05	6:55	6:18	8:00	5:46		
23	6:25	7:03	6:56	6:17	8:00	5:46		
24	6:26	7:02			8:00	5:45		
25	6:27	7:00	6:59	6:14	8:00	5:45		
26			7:00	6:13	8:00	5:44		
27	6:29	6:57	7:01	6:11	8:00	5:44		
28	6:30	6:55	7:02	6:10				
29	6:31	6:53	7:03	6:09	8:00	5:43		
30	6:32	6:52	9:00	6:00	8:00	5:43		
31								

*COMMENTS: The above table as indicated is based on Federal and State laws combined. Blanks indicate Sundays. Under the Federal law in effect for 1943 migratory bird hunting is permitted from one-half hour before sunrise to sunset but the Pennsylvania law, beginning with October 30, further restricts the shooting day for migratory game birds as above indicated. This data is based on the Harrisburg time zone.

During the period when the hours of sunrise and sunset govern the length of the shooting day, with the above table hunters in any part of Pennsylvania may determine quite accurately the lawful time to shoot in the locality by:

Subtracting approximately 4 minutes for the Reading-Wilkes-Barre Zone
Subtracting approximately 8 minutes for the Philadelphia-Easton-Hawley Zone
Adding approximately 4 minutes for the McConnellsburg-Huntingdon-Coudersport Zone
Adding approximately 8 minutes for the Johnstown-Punxsutawney-Warren Zone
Adding approximately 12 minutes for the Pittsburgh-Erie Zone

Wherever a fixed hour occurs repeatedly in the above table, such as 8:00 A.M. from November 1 to December 3 inclusive, no adjustments are allowable regardless of the part of the Commonwealth in which one may desire to hunt.

September 23, 1943



After an area 16 x 18 inches is cut down to the aforementioned layer or deeper, on a tree at least 8 inches in diameter and reasonably free of large blemishes, begin at an upper corner and start the bark with the point of your knife.

The Call of The Wild

By N. R. Casillo

Photos by the Author.

CALL moose in Pennsylvania? No, but you can make yourself a swell den decoration, one which will lend a real northwoodsy atmosphere to any sportsman's hangout.

Perhaps, paper or canoe birch country is not within O.P.A. distance, but don't let that cramp your style. Look about you. An outdoorsman is supposed to be resourceful. Or, maybe, you're one of those fortunates who does live in one of our northern counties where the white birch grows. Whatever your status, read on.

One Sunday afternoon not so long ago I was seized with that nostalgic feeling doubtlessly familiar to you too. You know, I mooned around, staring blankly into space while fancy winged to haunts of trout and hern; where feathery hemlock fronds caressed the roisterous stream. Yes, I could even smell the piney mountain air. Right then and there, a most irresistible desire took form within me. I just simply had to make myself a moose horn.

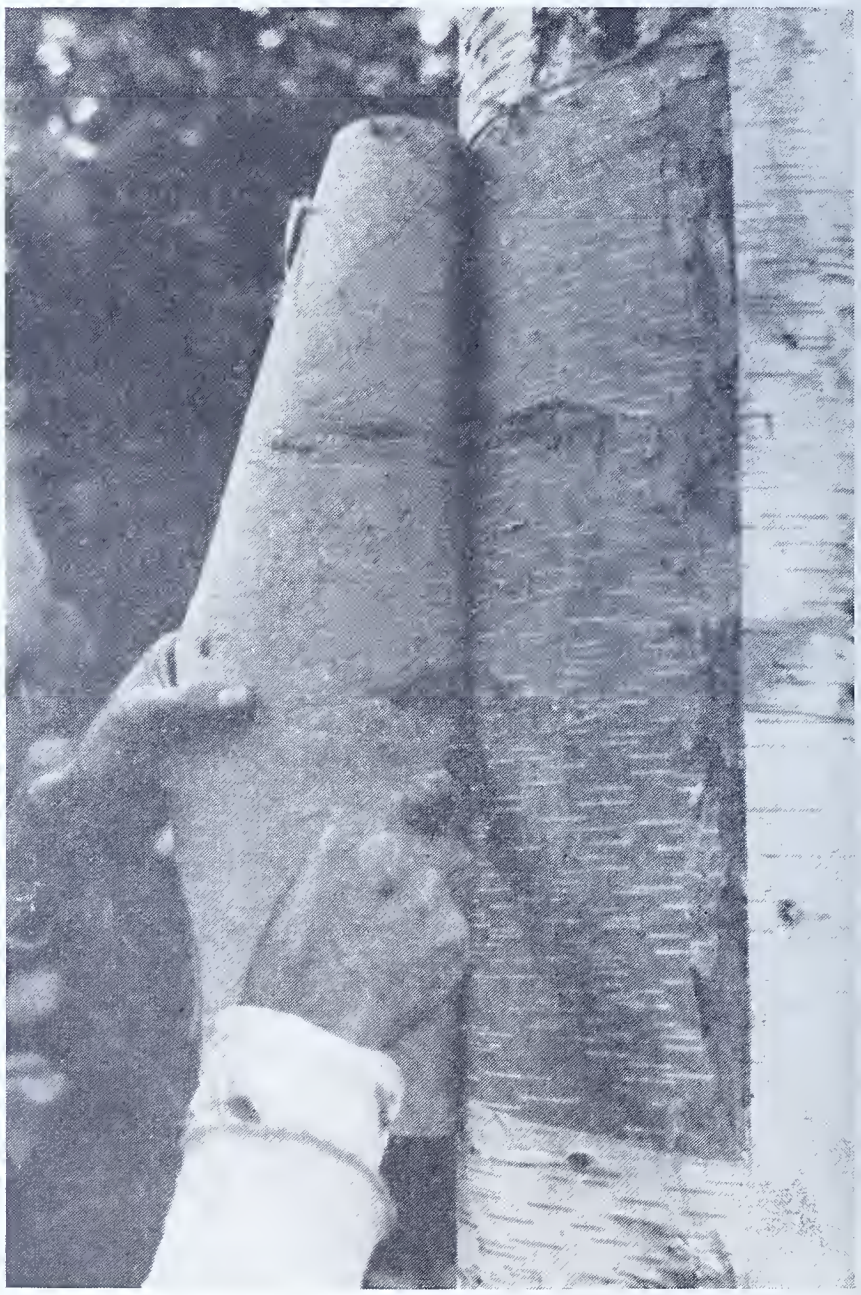
When I casually mentioned the unholy desire to my wife, she peered at me and wondered if my inability to make my usual two-week trek into the north country and eat burnt food garnished with pine needles while digging assorted insects out of my ears, hadn't affected my mind.

"What in the world do you want with a moose horn?" she finally managed, calculating, I suppose, that she'd better humor me.

I started with, "Well, I can call moose," but when a look of definite alarm bespread her countenance, I finished with a lame, "Oh, it'll give my den a little northwoodsy atmosphere."

She heaved a sigh of resignation.

According to the guides, the approved bark for an authentic moose horn must come from the canoe birch. This, despite the fact that most of them use a ready-made, folding creation put out by a mail order house. The genuine article, they say, imparts a wild timbre to the seductive call possible with no other material. Anyway, that's their contention during fishing season when there is no need for a moose horn. However, if there is a souvenir hound among the anglers who wants to take home one of the useful



At a blemish, pause and carefully cut through it. If you pull here the bark will be surely ruined.

gadgets, the guide will soberly reply that the bark can be peeled only in October. During the hunting season the plaint is that he forgot to lay in a supply of bark during the stripping season in June and forthwith hauls out the mail order horn and remarks, "The big boys go for this."

The canoe birch grows in a number of our northern counties,



The peeled piece has a tendency to curl inside out so that it facilitates the shaping of your horn. One end should loosely fit the mouth. A five or six-inch flare at the other end is O. K.



While the permanent retaining bands are being cut, the horn may be held intact with pieces of string tied about it or by sharp pegs pushed through the bark. The bands, of course, are also made of bark. An arrow-head at one end fits into a slit on the other end.



The only band requiring fair accuracy is the one fitting over the mouth end. The others may be approximated. If you're a stickler for neatness, you'll measure all of them. An inch and a quarter width for the bands is O. K.

but if you chance to live elsewhere don't despair. The weeping, cutleaf variety gracing many a city avenue and lawn will do nicely. If that, too, is unavailable, a hunk of cardboard will supply everything but the glamour. At that, a reasonable facsimile of the latter can be concocted with the addition of a few birch speckles applied with brush and paint.

Contrary to information from the most "reliable" sources, it is possible to peel the bark of the canoe birch at any season. True, at times the bark clings so tenaciously as to make it practically impossible to peel in the conventional way. The secret lies in stripping the outer bark off of the brownish-green layer instead of off the sapwood as the guides are wont to do. The weeping, cutleaf birch peels best on a dark night, the darker the better.

Now, the most amazing thing about this horn is that it works. After completing mine (made from a weeper), I went out into the semi-wilderness at the edge of town, squatted among some low growths *, in an approved fence corner at the edge of a clearing (this, also according to the guides), and proceeded to sound off. The idea, of course, is to simulate the call of a love-sick cow moose and thereby attracting the susceptible bull and frequently, bulls.

In a surprisingly short time there was arrayed about me an assorted assemblage of curious cows, ** but, thank heavens, not a solitary bull.

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* **Warning:** Don't, as I did, squat in a thicket of poison ivy.

** Mostly Holsteins.



Here it is, completed. Three or four bands are enough for a horn of this size. After the bark dries and hardens, its shape is practically fixed.

★ ★ ★ CURRENT TOPICS ★ ★ ★

IN MEMORIAM

The person who did more in the interests of worldwide bird protection than anyone else has passed on to his great reward, and his passing is mourned by bird lovers and naturalists throughout the Western Hemisphere.

Dr. T. Gilbert Pearson, President of the National Audubon Society, who died on September 3 at the age of sixty-nine after a brief illness, just rounded out thirty-eight years of Audubon work nine months ago, on December 31, 1942. Eight years ago he had turned over the direction of the Society's affairs to others and had become President-Emeritus. That by no means meant the cessation of his interest in the work to which he had devoted his life. Instead he turned his energies to the field of international bird protection, and ultimately succeeded in stopping the slaughter of songbirds, herons and other species that were used so extensively in the millinery trade, and in gaining protection for other feathered friends in the countries of South America.

Dr. Pearson was interested not only in the protection of birds but in conservation in its broadest conception and helped support much National Legislation in the interests of fish, forestry and wildlife.

His last extensive field work, just before the present war, involved a journey through most of that continent, during which he compared the game and other wildlife regulations of the various republics, determined the status of national parks, recorded the local attitudes and customs with reference to exploitation of forests and other natural resources, and eloquently pointed out the advantages of cooperative aims and purposes among the nations of the New World.

Holder of high official positions, and honorary and active member on Boards and Committees too numerous to mention, author of many fine ornithological works, Dr. Pearson merits all the acclaim the naturalist's world at large can extend him. He won those high honors for himself through his tireless efforts to serve the cause of conservation. Bird lovers, naturalists, sportsmen everywhere owe it to him and to themselves to be individual torch bearers to his enthusiastic and undying efforts in behalf of that cause.

Doctor Pearson aided Pennsylvania very generously during the period when our early conservation laws and programs were being formulated, and he never passed up an opportunity to aid the Game Commission with its problems.



Dr. T. Gilbert Pearson

NOTES FROM THE FIELD

"While patrolling on State Game Lands 106 I heard a lot of screaming and screeching in the thick woods near me. Upon investigating I found three young Cooper's hawks and two adults flitting around in the tree tops. I also found what had been their nest in a nearby hemlock tree, and what apparently was their dining room a short distance away. In this area I found what I thought were the bones of two ruffed grouse, two red squirrels, several rabbits and a freshly killed chicken about six weeks of age, which was partly devoured; also numerous pieces of small bones I could not identify, and the remains of a young hawk that apparently had died. One that I killed had a partly digested starling inside of it. The screaming seemed to be the young hawks coaxing their parents for more food."—Game Protector E. J. Turner, Group 2, Division "A".

"While hunting for rattlesnakes in company with Deputy Richard Check recently, I found a 51 incher with 15 rattles. The rattles measured 3¼ inches. In all the time that I have been out hunting I have never found a rattlesnake with so many rattles. I have found larger snakes, however, 57 inches being the largest. To date Deputy Check and I have found and captured alive or killed 71 of the reptiles. We hope to get a hundred before we are through this Fall. We have been hunting the dens and find that at this time of the year most of the snakes that hang around are females. We always cut them open to examine the stomachs and have been finding from nine to twelve unborn young in each."—Game Protector George L. Norris, District 4, Division "F".

A Woodland Shrine

I made a journey one fine day
To a glen not far away.
I went to rest beside a stream
And watch the gentle waters gleam.

The beauty of this woodland nook
The babbling dancing little brook
Tall hemlocks shut out all the view
Save a glimpse of heaven blue.

A solitude so rich and deep,
Slow upon me seemed to creep.
I found a peace so full and rare,
I could not help but tarry there.

I'm sure God made this lovely vale
Where peace and quiet do prevail
To soothe and comfort some sad being
Good cheer and solace to him bring.

I lay and slept at Nature's Shrine,
I dreamed that all God's joys were mine.
When I awoke I knew that, lo!
'Twas always so, 'twas always so.

If e'er a man with troubled mind
Would real contentment seek to find
To nature's shrine he should repair
For that's why God hath put it there.

STANLEY NOVAK.

"I have found plenty of bear signs throughout Land Group E-1. They tore down several signs at each refuge, especially at Aux. 22."—Game Protector Cecil D. Hancock, Group 1, Division "E".

"While enroute to headquarters last week I saw a red or cinnamon colored bear. It was along one of the U. S. Forest Service roads in the vicinity of Hearts Content. This is the third red bear that I have seen in Pennsylvania. The other two I saw in Lycoming County after they had been killed in bear season."—Game Protector George H. Burdick, Group 4, Division "F".

"It was one of those exhilarating October Sunday afternoons that two Pennsylvania Game Protectors were patrolling near a Game Refuge where wild ducks stop off each Fall for a much needed rest previous to their final southern flight. All day long cars filled with eager outdoor folk kept coming and going along the valley road. Cars were parked here and there in the brush—the occupants roaming over the hillsides looking for evidences of game; others admiring the simple beauty of nature in all her splendor.

"A large flock of wild ducks take to the air from the middle of the Refuge. 'Look,' said the Protector, 'someone is in the refuge.' 'Ducks don't fly just for fun at this hour of the day.' 'Let's investigate.'

"So, like two Game Protectors should do, they quickly and silently arrived at the spot where the ducks had arisen.

"Over there he is, no it's a woman—it's two women, it's three of them. What could three women be doing in a Refuge along the creek. It wasn't long until all was clear. The condition of their clothing spoke the

(Continued on next page)

Wanted

Man or woman to invest in sure-fire proposition. Must have $18.75 or up. See man at desk any U. S. Post Office. References—U. S. Treasurer. Buy more Bonds!

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answer. They were lost. I would not say that they were Babes in the Woods—they were old maids in the woods.

"One of the Protectors called to them and asked their mission in the Refuge. Upon hearing his voice one of them raised her eyes and hands towards Heaven and shouted, 'My prayers have been answered, I just said, "Lord send us a man" and he doubled my order' ".—Game Protector W. W. Britton. Division "D".

"I was called to a farm adjacent to Game Lands No. 139 in East Rockhill Twp., Bucks County, to investigate a complaint of foxes or other vermin destroying chicken eggs on the second floor of a barn. After investigating the case I found just what I had expected—a 4½ ft. blacksnake coiled up in one of the chicken nests. The farmer shot the reptile which contained 4 wooden and 1 china nest eggs. The china egg was broken from the shotgun charge. Since then the farmer has been getting his usual amount of eggs daily."—Deputy Game Protector Clarence H. Mumbauer, District 8, Division "A".

"A local farmer has suffered considerably from deer damage to his growing crops and trees during the past few years but a new kind of trouble confronted him some time ago. He had a number of cows that ranged the pasture that bordered and took in part of a nearby woods. When milking time came one of his cows gave such a little amount of milk that he came to the conclusion that some one was milking it without his permission. Accordingly he made up his mind to lay for the culprit, so on Sunday he went to the pasture and imagine his surprise when he saw two fawns, one on either side of his cow, helping themselves to some fresh milk. Evidently the mother of the fawns had died or was killed and the cow had generously permitted them to feed from her."—Game Protector E. L. Shields, District 6, Division "E".

PITTMAN-ROBERTSON PROGRAM CONTINUED

The Commission, on August 6th, submitted another Federal Aid in Wildlife Restoration Land Acquisition Project to the Fish and Wildlife Service of the Department of the Interior. The project received approval August 21, 1943.

It covers 17 tracts of land in 12 counties of the State, as follows:

County	*Township*	*Owner or Agent*	*Estimated Acreage*
Blair	Huston	George R. Lingenfelter	585.0
Bradford	Canton and Leroy	Edw. C. M. Richards	110.0
Cameron	Shippen	Trustees, Snake Run Hunting Club	166.8
Carbon	Penn Forest	Extrx. Elizabeth Smith, dec'd	946.5
Clearfield	Lawrence and Goshen	Charles Steele	2,200.0
Crawford	Bloomfield	Commrs. of Crawford County	53.0
Crawford	Bloomfield	Iva E. Brown, et al	53.0
Elk	Ridgway	Richard E. Cartwright	352.8
Luzerne	Dennison	Commrs. of Luzerne County	1,441.0
Luzerne	Dennison	Eunice E. Sherwood	1,150.0
Luzerne	Foster	Clara K. Patterson	22.6
Luzerne	Ross	Kingston Securities Corporation	776.5
Snyder	Adams	James H. Wiand	176.0
Susquehanna	Harmony	Mark B. Lake	1,318.0
Tioga	Tioga	Norris Benson	61.0
Tioga	Tioga	Norris and Bert Benson	550.0
Wyoming	Noxen	Walter S. Kitchen, et al	1,026.0
			10,988.2

All of the above mentioned tracts were approved for purchase by the Commission on April 8, 1943. The total estimated cost of the land is $39,547.25. Acquisition costs, estimated, total $14,804.66, making the total estimated cost of the project $54,351.91.

On this basis of estimates, the Game Commission's share of the project is $13,587.98 and that of the Fish and Wildlife Service, Federal Aid in Wildlife Restoration Fund is $40,763.93.

The Commission was recently informed by the Fish and Wildlife Service that its apportionment of Federal Aid Funds for the Government's Fiscal Year starting July 1, 1943 was $43,646.30.

"On July 15 Lawrence L. Louden reported seeing a crow dive into the grass beside the highway and come up with a half grown pheasant. It was unable to carry the pheasant more than a few feet and dropped it in the road still alive and struggling. However, by the time Mr. Louden stopped his truck and got out the bird was dead."—Game Protector L. H. Wood, District 1, Division "C".

"The other day while mowing refuge 13A we killed a half grown porcupine. Mr. Kocher, who was helping mow, skinned it. cut it up and put it in his lunch pail. He took it home and told his wife that it was a groundhog. She cooked it and said that it was the best groundhog that she ever ate."—Game Protector Chester S. Siegel, Group 6 and 7, Division "C".

"On July 26 around noon I saw an Albino Grackle about two hundred yards north of the Loyalsockville bridge."—Game Technician John R. Langenbach, Division "C."

"A blacksnake ate three robins in the nest before I got him. One robin was not eaten. Ten rattlesnakes have been killed in this neighborhood. That is more than usual.

"Several squirrels are still coming to my lawn for corn, and a gray mother brought one baby out on the lawn."—Game Protector Ralph H. Ewing, Group 5, Division "F".



Photo by Delbert Batcheler.

Game Protector Mark Motter, left, removing rabbit trapped on Victory Garden near Harrisburg, Dauphin County.



"On July 26 I was walking down an old trail in Warton Twp. when suddenly a very irate bird flopped out in the trail, as much as to challenge my passing by. I immediately stopped and observed its peculiar action and recognized it as a whip-poor-will. It began to give out a peculiar call, then I saw two very tiny birds streaking under a brush pile. I concealed myself and waited to see what would happen. The mother bird returned to the place where the young were first seen and began beating her wings in the leaves. This I presumed to be her way of signaling to the youngsters that all is well, for when I made the least movement she began her peculiar call again signaling that danger was near. The thought also entered my mind that this might be her method of attracting attention from her young."—Game Protector L. E. Sheaffer, District 14, Division "G".

The Glen Rock Fish and Game Association, Glen Rock, Pa., which reorganized in 1939 with 40 members, has grown to 150. The association has been raising pheasants contributed by the Commission for the past several years on the property of its President, John Decker, who looks after the birds. In 1940 he lost only 5 out of 100 and in 1941-42 only 4 out of 100. Every year the ground is spaded and planted to Pennsylvania game food plot mixture. Its members feed game during the winter and help farmers to plant many pine and nut trees. Free memberships are issued to all farmers whose lands are left open to public hunting.

"The Clinton Erwin Rod & Gun Club in the south end of Venango County has sponsored a scrap collection drive which up to August 1 netted $100, which has been invested in War Bonds. The scrap is being donated by farmers and lease owners and collected by the club members. A truck for hauling is donated by friends and members of the club. Donald Welton, 9 years old, was the first one to hustle for the scrap drive and dragged a hay rake some distance across the fields as the first contribution."—Game Protector Ralph H. Ewing, Division "F".

"While on vacation I saw a peculiar sight. Hearing a commotion in a small lagoon near the cabin I slipped down to investigate. Much to my surprise there was a mink pursuing a bullfrog in the shallow water among the weeds. The action was brief but fast—the frog was unable to outmaneuver the mink."—Game Protector W. T. Campbell, District 10, Division "F".

"Edgar Shearer, Fire Warden, residing at Perulack, Juniata County, reported to Mr. John Zeigler, Forest Ranger of East Waterford, that he trapped a gray fox last winter. While the fox was in the trap a deer came along and attacked reynard and tramped him into ribbons. The tracks in the snow showed plainly what had taken place."—Land Manager Harold Russell, Division "D".

"On the evening of July 5 a neighbor who lives directly across the street from my home brought a small animal to me for identification. It proved to be a full grown male gopher, which he had killed with a stone. He said another gopher, undoubtedly the mate, has been seen several times since by these people. I cannot account for the presence of these animals in this section of the country."—Game Protector Maynard R. Miller, Districts 3 and 6, Division "B"—Editor's Note: Probably someone had them in captivity and released them.

A barn owl out for some nocturnal maneuvers swooped low at Broad Street and Pattison Avenue, Philadelphia, at 4 o'clock on the morning of July 15 and for the next half hour police had a first-class traffic problem on their hands.

It wasn't until two policemen turned on the spotlight of their car on the bird and captured it, that order was restored.

The word "conservation" comes from two Latin words that mean *to keep together.*

Tackle For Servicemen

The International Game Fish Association wants to provide tackle for the millions of our boys who are stationed where recreation is limited. These boys often try to improvise fishing hooks from discarded wire, scraps of metal and even safety pins. The Association wants to provide tackle for them and has designed a practical fishing kit suitable for both salt and fresh water fishing. The kit consists of two types of lines, assorted hooks, leaders, sinkers, feather, spear and a compact net to obtain bait. The whole thing is encased in a sturdy bag and can be carried in the pocket. Each kit costs only $2 and will be used by many boys. Every dollar contributed will be spent for fishing kits only. Campaign expenses are donated by this organization. The American Red Cross has assumed complete distribution of the kits.

The International Game Fish Association is sponsoring a drive to raise funds for the manufacture of these kits on a non-profit basis and has started the bal rolling by contributing the first thousand kits.

It wants to place one of these kits in the hands of every overseas serviceman who wants to go fishing, but we need your help. Here's a chance for sportsmen of America to do an outstanding job for those boys who are sacrificing so much for our country. Anything you send will be appreciated. Make checks payable to Michael Lerner, Chairman, International Game Fish Association, Central Park West, at 79th St., New York City.

Demolition Experts

We specialize in demolishing factories, railroads, ships, etc. Just send $18.75 by way of the U. S. Treasury to help us.—U. S. Air Force.

"On July 27 while on patrol with Fish Warden L. C. Ogden near Parker Dam, we noticed a pair of robins flying in and around one of the piers used by swimmers. We walked out on the pier and watched them flying under it. Looking down between the planking we saw a nest with two young robins. It puzzled us why a robin would build a nest only about two or three feet from the water when so many likelier looking spots were available to it. The question now is will the young robins be able to flutter out of the nest to land, or will they be drowned in the attempt."—Game Protector C. E. Laubach, District 11, Division "E".

"While working with my mowing crew this month we killed eight rattlesnakes and three copperheads.

"We saw three flocks of young wild turkeys which would number approximately forty-five young birds."—Game Protector William Lane, District 6, Division "D".

Teach the boy to row a boat, to swim, to fish and to hunt, and when he comes to manhood he will be found on the jury and not before it.

Hunting and fishing license sales in Iowa for April and May 1943 totalled $30,595 less than for the corresponding period in 1942, which greatly exceeds the drop expected by the Conservation Department.

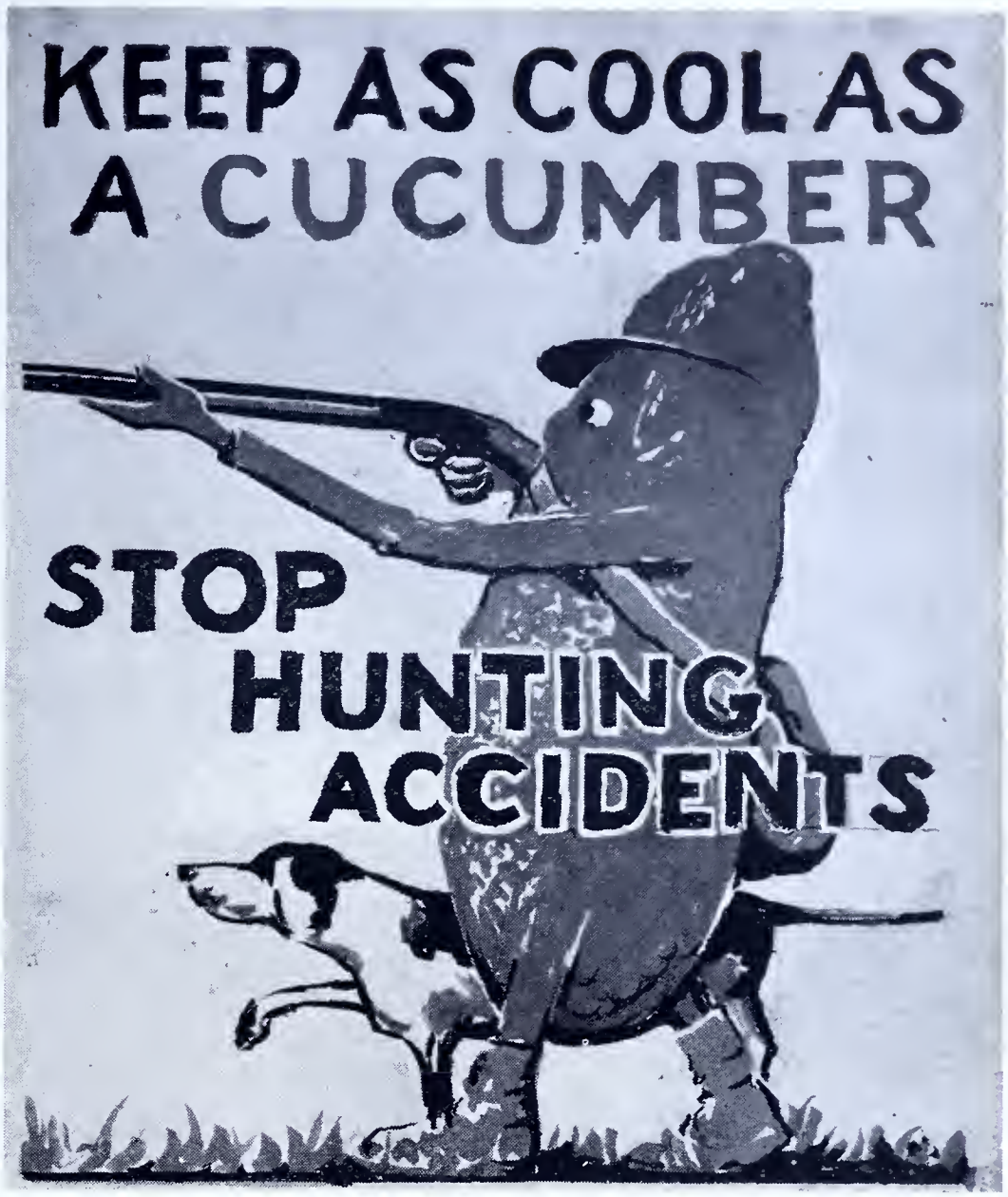
The Wisconsin Conservation Department recently discontinued state bounties on wolves and wildcats.

A new 136 page duck book entitled "Waterfowl in Iowa" is now being printed for distribution by the State Conservation Commission. The text is by Jack Musgrove, Museum Director of the State, and Mary Musgrove. The illustrations, including seven full-page color plates, are by Maynard Rees, Staff Artist and Museum Assistant.

The book is not intended as a scientific treatise nor as an exhaustive study of these birds. The information given is pointed toward their identification and understanding. The brief life histories place emphasis on habitat behavior, field marks and appearance in hand.

On the basis of 2,727 bobwhite quail wings examined by A. S. Leopold of the Missouri Conservation Commission staff, approximately 83 per cent killed during the 1942 open season were birds of the 1942 hatch.

Leopold has discovered a method of telling old quail from young quail by the markings of the wing feathers. Prior to the 1942 open season hunters were asked to send wings—one wing from each bird—to the Missouri Cooperative Wildlife Research Unit here for examination. A total of 2,727 wings was received. Of these, 447 or 16.4 per cent were found to be from adult birds, and 2,280 or 83.6 per cent were from the 1942 hatch.



A Splendid Gesture

At its recent Quarterly Meeting (following impromptu talks by M. J. Golden of Reading, Field Division Supervisor of District "A" under the Pennsylvania Game Commission, and Oscar Becker also of Reading, Chairman of the Southeastern Division of the Pennsylvania State Federation of Sportsmen's Clubs), the Montgomery County Federation of Sportsmen's Clubs started a fund among the members of the associated clubs to send the PENNSYLVANIA GAME NEWS or The ANGLER to some Pennsylvania resident in the armed forces who does not now receive either publication. Mrs. Ellen A. Dietrich, the wide awake publicity director of the Federation, called ye editor on the phone from Philadelphia the other evening to tell me about the program, which, of course, only applies to affiliated clubs. So if you are a member of one of them and know a lad, or lassie, in the armed forces who might appreciate either magazine, just send his or her name to Mrs. Dietrich at 1141 Roosevelt Drive, Upper Darby, and the Federation will do the rest.

Sportsmen's clubs in other counties may want to follow this example. If so Mrs. Dietrich will tell you how her club raised the funds for the purpose, most of which were accumulated by popular subscription, I believe—The editor!

Ohio Has First Deer Season in 41 Years

The Ohio Division of Conservation and Natural Resources has announced that Ohio will have an open deer season this Fall for the first time since 1902. Shooting of buck deer only will be permitted in three southern counties—Scioto, Adams and Pike—while shooting of both bucks and does will be permitted in ten northern counties—Ashtabula, Columbiana, Cuyahoga, Geauga, Lake, Mahoning, Portage, Stark, Summit and Trumbull.

It is expected that official regulations, to be adopted later, will provide shooting hours between 9 A.M. and 5 P.M., E. W. T., use of only shotguns and bows and arrows, and a limit of only one deer per person for the season.

Severe damage to agriculture in some areas, plus a desire to see whether Ohio can be made a deer hunting state, are given as the reasons for permitting deer shooting this Fall.

Do you stay awake nights? See the Office of Civilian Defense you might as well be doing something. A job at a filter center will provide you with something to do and an excuse for your wife.

Black Bear of Elbow Swamp

(Continued from page 6)



Old Grat exhibits his strength.

Grat said, turning, "Jake, you swing alone around to the south." He talked crisply now, his voice indicating that from now on, all was business. "You know where Lone Pine is?"

Jake nodded. There was a deep red color on his cheeks, color that was the glow of sunset, the sharpness of frost, the sting of forest wind—all of which, to him, meant happiness and contentment. After Grat Mellows had spoken, Jake started off alone, working his way slowly through a maze of chestnut windfalls.

Grat Mellows turned to Wendell and Ed. "You two go around to the north, and stand at the Saw Creek gulch and Piney Ridge."

Even as he spoke, I saw what was in store for me. I was to help to drive. And to drive with Grat Mellows was a day's work in every sense of the word. He was not an ambitious man, not anywhere except in dark and almost impenetrable swamp wilderness and on a deer or bear drive—and then he was a demon. I had seen him before, knifing swiftly through twisted rhododendrons or scrub oaks, and often had I remarked that he was more than a man of mere bone and flesh and blood. Like most native Pocono mountaineers, he in the forest was the incarnation of the forest itself—wild, furtive, silent, tireless; he could steal along a woodland trail as sly and noiseless as a shadow, as though part of his heritage was that subtle wariness that is the heritage of children of the wild. And I to drive with this man, and after a night of unrestful cat-naps and tossings and mutterings and sighs of anguish!

"Come on," Grat said. "Let's go."

So off we went. Grat took it very easy for a time, to give the standers an opportunity to get located. The sun climbed higher in the heavens and in the open places the snow sparkled like silver.

"We'll drive straight back, toward the eastern mouth of the swamp," said Grat Mellows. "Don't move fast, and zig-zag as much as you like."

"Bears have a keen sense of smell, don't they?"

"You bet they have. They must have to detect dangers and smell food. They're almost blind, you know."

We waited a short while longer, and then began to drive. I was having a hard time to get heart and soul in the hunt, for I was tired at the start; but after Grat Mellows fired a shot into the air, signal of the hunt's true beginning, I began to feel mounting enthusiasm.

Black bears, I knew, in this region were lovers of the low-lands, where they wandered both for food and for cover. They were daylight hunters, searching for nuts and berries during the early hours and napping in some thicket toward the close of day. I mistook a large black stump at the start of the drive and said to myself, "You're likely to see the real McCoy yet today, just wait and see."

The going was extremely rough. There is something forbidding about a swamp, even when the freeze has eliminated the danger of sinking; dangers seem omnipresent, and several turkey buzzards soaring above the tall, naked chestnut snags somehow drove home to me the vastness of Elbow Swamp. There were innumerable moss-clumps scattered about everywhere, and I soon found that at times the best progress could be made by jumping from moss-clump to moss-clump. On one occasion I stepped on one smooth stretch of snow and found myself flattened out a split-second later; the snow I had stepped on had covered a patch of ice. This experience made me lean more and more to the moss-clump jumping method of travel.

Grat Mellows did some barking, in imitation of a bear dog, and I followed suit, in imitation of Grat Mellows. The going got rougher and rougher. And more and more, I marvelled at Grat Mellows' ability for woods-travel. In all this while, he did no stumbling, no dodging of obstacles, no clearing of brush. I was having a terrible time of it, and could not help but think that my companion had purposely selected the toughest route of travel for me.

There were no signs of bear. In fact, there was little sign of anything. Once I chanced upon the trail of a weasel, and again upon the trails of two deer, but that was all. And the forest was still—so still that when snow fell from a naked tree-limb and the unburdened limb lifted and clicked against a brother, I turned my head quickly.

Abruptly I was startled by a call, "Bear for Lone Pine!" I halted in my tracks. I looked quickly on all sides of me. It had been Grat Mellow's voice.

"Hey," he called over to me.

"Coming." I hurried over towards his voice.

He stood on the edge of a laurel patch. He was pointing.

"There's your bruin," he said. "Passed by not more than an hour ago."

I looked down at the track and the size of it caused me to gasp. "What a monster!" I cried.

"He's a nice one," Grat said calmly.

"What are we going to do?"

"Follow. He's headed for Lone Pine—Jake's stand."

"He probably passed it."

"Maybe. Feeding bears move slow. Listen. You stick to the track of this fellow and follow him. Pick up Jake at Lone Pine. I'll go up and get Wendell and Ed."

"Right."

I was excited now. The thrills of the chase possessed me; I checked my rifle briefly, to see that all was in order. Then I prepared to start out.

It was after I took my first step that I realized what hardship stared coldly at me. Ahead, was a laurel patch—and a thick one. Through this patch the bear had gone. And my job was to trail the bear. Oh, was I tired, too! I thought again of stout, genial Ed Gordon, and damned him for about the hundredth time. After this mumbled cursing, I plunged ahead.

Now a bear is a peculiar creature. To him, the hardest route is the choicest. Give him a jungle or a path, and he will take the jungle, every time. I suppose he feels much safer. He certainly has no consideration for the poor huntsman who pursues him. Why I crawled on hands and knees in places in that laurel patch; I climbed over not one, but at least a dozen, windfalls; I got scratched by briars, slapped in the face by branches; and to top it off, I stepped on a skin of ice covered with snow and wetted my foot to the knee. I damned that bear, damned him along with Ed Gordon and Grat Mellows and the whole Pocono mountains. And then, suddenly, a rifle shot startled me.

The rifle shot was very near, and sharp, like a whip. Ahead was a rock-cap, perhaps ten or fifteen feet high, and I headed for this as fast as I could. While I ran, another shot rang out. And then still another. As I started to climb the rock-cap I heard Jake's

voice, "I can't stop the —— —— ——!" When I reached the summit of the rocks, I perceived quickly that mine was a wonderful view, for I could see clearly over the tops of the stunted undergrowth which had filled this particular territory after the chestnut blight. I saw Jake Gordon ahead of me, working frantically at his gun, but saw nothing of the bear.

"Get him?" I called.

"I hit him!" he called back, without looking up. "But he's still going, and my gun is jammed!"

I hurried down from the rock-cap and made my way over to Jake. A snow-shoe rabbit ran out in front of me and almost frightened the life out of me. I was seeing bears all over.

"Which way he go?" I asked foolishly, seeing the tracks in the snow, and beyond, a patch of blood where Jake's first hit had been scored.

Jake pointed with a finger that trembled noticeably. "And he's madder'n a hornet. I never knew a bear could growl so loud."

Then a series of shots rang out, and this time, I could hear plainly the growls of the bear. Another fusillade of rifle shots split the stillness. Then the cry, "Stay back from him, Ed!" It was Grat Mellows who called.

There were no more rifle shots. Jake and I started down through the laurels toward the scene of the shooting. We found Grat Mellows, Wendell and Ed Gordon standing over the bear with their rifles still pointed at him. The bear was lying very still in the snow.

Ed's face wore a grin from ear to ear as he turned to me. "I fired the last shot into him, too," he beamed.

I still thought of that ruined night's sleep when I looked at Ed. "Yeah, but he looks like he might have an almighty tough hide—and you said you'd eat the hide off of any bear shot in Pike County."

"That's the trouble with bears," said Wendell, very seriously. "They're no good eating."

Jake put in, "Well, that sure was fun. And now comes the real fun—getting that bear out of the swamp."

Yes, it was fun, for truly the most painstaking labor in sport is fun. I was weary from lack of sleep and tramping the swamp, but it was fun; and it was fun for Jake Gordon, too, who had forgotten all about heart trouble and was pulling along with the rest of us.

It was dark when we reached camp. A winter moon rode high, however, and it was a silver darkness. We and the dragging bear were moving shapes of shade, the sole movement in the sleeping, frost-rimmed forest.

"Well," said Ed, as he stepped inside the cabin, "I still can't get over the fact that we got a bear."

"But we got one!" I beamed.

"And it surely was fun," added Jake.

"I still bet the steaks will be tough as shoe leather," predicted Wendell.

Grat Mellows dropped wearily to a chair. "Well you boys can talk all you want tonight, I'm going to hit the hay. I got to take another bunch through the Elbow Swamp tomorrow."

"It Ain't Necessarily So,..." *(Continued from page 7)*

rose to my left; I turned the gun ahead of the foremost and at the report the rear bird fell through a mass of floating feathers, while the one I aimed at sped on across the plain unruffled. On both sides the roar of Millie's and Vernon's guns resounded like the charge of the light brigade.

Hitherto the sage hens rose from fright, but now with rushing, tearing sound, as if rending with speed the canopy of heaven, up they sprang into the face of the night. Other sage hens lengthening their lines, descended slowly to their night cover.

Far above all these, crashing against the evening air, was the penetrating boom of the guns. And of the game descending there was more than enough for all.

Calling a halt we took stock of our trophies and found an even two dozen big birds between us. Mellie had five in his bag to show for his 25 shells, Vernon had eleven, and I had eight. Mounting our ponies, we headed for home, happy and carefree, reciting and arguing, far into the night, the incidents of the day. Along the way I remarked that I had used shells loaded with sixes, after much indecision between sixes and fours, and that if I had used fours on the big, heavy birds, that undoubtedly the results would have been quite different in that I would have been high man, and that anyway I knew better all along, but that—, when both Mellie and Vernon chimed up "Yeh, we know, but IT AIN'T NECESSARILY SO."

Post-War Planning

(Continued from page 3)

changed to permit the selling of hides there is no reason in the world why every successful hunter should not place his deerskin in the channels of industry so that the essential soft, pliable gloves and other materials so badly needed by the armed forces can be produced in greater quantities.

Incidentally, only 7,000 deerskins were salvaged last year out of a kill of almost 30,000 animals. One tanned hide will produce 4 pairs of gloves. Uncle Sam surely could have used the others. This season let's see to it that he gets all of them, whether we kill 30,000 or 50,000 deer. *And when the war is over, let's keep on being conservative not wasteful.*

Timberdoodle Tips

(Continued from page 5)

the area has been used recently. Mr. Woodcock, fortunately for the hunter, leaves his calling card (which is a white chalking about the size of a quarter) on the feeding areas. Keep your eyes open for these chalkings; they are an excellent sign that the cover is suitable for the birds even if you don't flush any.

These are just a few facts about one bird that have been found out by observation and research. They are tips that will guarantee better hunting for you Mr. Hunter and the so-called crackpot scientists have discovered a lot more of them about other birds and animals, and we hope they keep up the good work.



The Commission's post-war program must provide for educating the youth concerning the value of our natural resources. Here a group of eager youngsters are observing waterfowl on the Pymatuning refuge.

THE BLUE Y CAMP

By Jimmie Guthrie

In the Blue Y Camp there's laughter and fun, as we talk of the morrow that is to come.
When the season begins at the break of morn—
We'll patiently wait the glimpse of a horn.
Our plans are made for the morning's drive,
Into the "Cove" from the "S Curve" side.
When morning arrives (before it's quite light)
We're all up and dressed, and sit down to a bite, of bacon and eggs, and coffee and jam.
"Bumper" Fowler kin cook (you said it by damn).
"Curly" is always the hardest to please—He's always yelpin' "Too blamed much grease"!
A blast of a whistle—then yelps of yoo hoo.
There's one sneakin' thru! H - - - it's only a doe.
The drivers come nearer—then finally out, and spottin' a watcher; one driver shouts:
"Did Ja see them doe—I jumped comin' thru"? goin' like H - - - and headed for you"!
"Yeah, I saw the four, but I have no luck.
They were four "mooly does," and nary a buck"!
"Let's try'er again, don't waste anytime;
The watchers will post on the Survey Line.
We'll give you a chance to get set at your post,
"Geeze" somebody get one—I'm hungry for roast."
The hunt is finally on again—
Thru scrub oak, and laurel, over rocky terrain.
The drivers are finally on the move,
Toward the Survey Line—out of the "Cove."
On that drive and the next, there were no bucks shot.
"Cripes"—it might have paid us all to "pot"
It's dinner time now, and back to camp.
We'll figure out, the afternoon tramp.
Some are in favor of "Asken Ridge"; into the "Big Gut" or to the "Big Ledge."
We all feel better after we're fed, Who? Tom Guthrie? H - - - he's gone to bed!
We finally decide upon the "Big Flat."
In all the Black Moshannon, there's none beats that.
We take our rifles and leave again,
Down 'long Benner's we follow the stream.
Past "Rapsey's Camp," the "Big Rock" the "Ant Hump,"
The "Y. H. Tree" and "Peg" Brown's stump.
Then up the "Gut" to the "Pin Oak Tree,"
We'll get deer here—just wait and see.
We'll make short drives, just for fun.
From the "Blocked Pine Tree"—toward Panther Run.
We choose our drivers and place our men, and the big buck drive is on again.
The drivers had hardly begun to shout,
When up on his feet, and off, and out!
A big black buck with head hung low;
Lit off thru the brush, fast as he could go!
A driver saw him and began to yell: "He's as big as a mountain, and goin' like H - - -"!
Bang! Bang! He's hit! I hit him right there!
(I swear to Gawd he shot in the air!)
The buck looked back, but continued to flee,
'Till he finally stopped under Tom Guthrie's tree.
Old Tom was a shakin' with a dose of Buck Fever, but he finally aimed and kept jumping his lever.
His .300 roared and bellowed and barked;
That poor old buck dropped with six bullet marks!
His eyeballs were punctured, his neck and his ribs,
His upper hind legs looked jest like a sieve.
"There ain't much meat left," is the first thing we said,
"No, but look at that rack—10 points on his head"!
If you want a nice trophy, and don't know the trick—
Send for Buck Fever Tommy, known as Dead Eye Dick.
The following day, two more were shot,
Then on Wednesday, another nice six-point was got.
Another on Friday that was five for the week.
We still needed one for our limit of meat.
Then Saturday night (not long before dark)
We were eating our supper; and just for a lark,
I took up my rifle; and went for a walk.
While the rest of the gang stayed in Camp just to talk.
It's hard to believe—but I really did see,
A beautiful buck standing under a tree.
I deliberately aimed, one shot done the trick.
Tonight in the "Blue Y" there's a new Dead Eye Dick!
I'm not the sort of a fellow to brag—
But mine was the best of the six that was bagged.
He was shot thru the head; so the meat wasn't messed,
Had fourteen points, weight, one ninety dressed.
Gee, but I'm cold. Go fix up the fire; and I'll tell you a story, cause I'm a good liar!
Gather round me now boys, while I blow off some steam,
Even if I can't hit 'em—I know how to dream!



"That's all I could salvage—the neighbors were meat hungry."

Hunting the Headlines

(Continued from page 17)

Some were tragic, some were funny, and others were downright stories of ignorance.

You don't have to be an artist to draw conclusions. Here are a few of the 'dillys'.

Three Shot Fatally in Deer Hunts Avid Pot Hunters Shoot into Home

Cable repairmen have a tent pitched over a manhole for warmth, and dozens of young nimrods on their first trip into the game country and with vague ideas of what it is all about, have mistaken the tent for a hunter's post and have stopped to ask if the occupants expect deer and a hundred other questions.

Gunners Riddle Deer in Village Street

Hunters open fire with high-powered rifles along main street of town.

Lost Hunters Rescued in Deer Country Boy 16, Killed Hunting with Father

My favorite was this little tale that is a masterpiece among the many touching stories that came out of the game country.

Real Human (or Inhuman) Tale Bared by Game Killing

Pet deer in camp woos and wins mate; Missing wearing red sweater.

WARREN, Pa., Dec. 8—Out of the myriad of stories coming from camps in this section, one of the best has to do with "Jiggs" and "Maggie", the famous pet deer at the Red Bridge Veterans CCC camp between Kinzua and Dunkles Corners. Maggie is perhaps the first deer born as the result of a Caesarean operation. Her mother was hit by one of the camp trucks and when the enrollees started to dress the carcass Maggie arrived. She was taken to camp and kept alive by tender ministrations, raised on a bottle and allowed to roam about the camp as she pleased.

Jiggs came around later and fell in love with Maggie and when she told him what a swell place it was, he moved in.

(Continued on page 32)

TWO LUCKY HUNTERS

"November 19 last year found me in the orderly room speaking to the company commander. I wanted a furlough. The captain said the quota had already been filled for the period of November 26 to December 5.

"I told him I hadn't missed a deer hunting season in Penn's woods in eleven years and I'd surely appreciate it if I could keep this record intact. The only consolation that I got was that he'd see what he could do for me. He did . . .

"Only my brother Joe, my brother-in-law George, and I formed the party. George hunted with a camera.

"Soon after separating in the dense laurel thickets, the snow started falling again. I had visions of being stranded as it was very difficult for us to reach this remote place. The hills around Kinzua, Warren County, are practically inaccessible during severe snow storms.

"As there were only a few hunters in the locality we used the tracking system, but hour upon hour of painstaking hunting in the deep, white snow didn't give me even a sight of a waving tail. I was not disappointed, because I considered myself a lucky fellow just to be out hunting. After meeting my brother-in-law in the early afternoon we discussed our experiences. Our conversation was interrupted by shots on the ridge. The next barrage seemed to be a little nearer. Just before the deer appeared three shots rang out in quick succession. Although I was prepared for this buck in high gear, I couldn't put the bead on him that would stop him. He never took two jumps in the same direction. My .300 Savage took its toll of saplings.

"That night it snowed continually, so we laid our plans accordingly. We would hunt the valleys where the pines are thick and low to the ground. Just before we left the house of our host, his little son said that this is to be our lucky day.

"Reaching the first pine thicket I stopped to eat a sandwich. Joe, never hesitating, walked right through it stealthily. Instantly, a buck barged out in high gear. I don't think I've ever moved any faster as I picked up my rifle and let the slug fly. It was a relief to hear the full thud against his chest. In mid air he folded and came to a stop against a tree trunk.

"After a little deliberation, George and I took the buck to the car and left Joe hunting the identical valley. About two hours later, while returning to meet him, we heard a single shot in the locality where he was to be. We located him as he was preparing to take out his five pointer. He bagged his about sixty yards from mine. Each weighed 106 pounds and each sported five points.

"We only hope our host's son makes the same prediction next year."—Cpl. Fred S. Ceslak, U. S. Army.

Photo Lewis D. Reddinger.

Pennsylvanians can rightly be proud of the women who have taken over the lonely "lookouts" duties in our forest lands during the emergency of war.

Photo shows Mrs. Charles Host of Marienville, Pa., on duty at Round Tip tower in the Southern District of the Allegheny National Forest, near Ridgway.

Her daughter shyly eyes photographer from background.

☆ ☆ WITH THOSE IN SERVICE ☆ ☆

The office staff was agreeably surprised and almost disrupted the other day when Sgt. Bob McDowell walked in on his way home from Africa. He flew all the way. He now has about 35,000 air miles to his credit. On way to Officer's Training School at Edgeworth Arsenal. Half hour after he came in Mary Elizabeth Brown who used to work in the bounty section came in to say goodbye. She is on her way overseas to do Red Cross work. Good luck "Brownie". And hot on her heels the same day, or evening, came Donald Keefer, formerly of the Division of Public Information who was just selected for an important role in Helen Hayes' portrayal of "Harriet". Nice going "Don".

The office force was agreeably surprised and delighted to see Game Protector Fred L. Myers who just emerged a Second Lieutenant. Congratulations Fred! We hope to hear from you later.

Didn't have an opportunity until this issue to pass along the word that Game Protector Donald Miller entered the service. Naturally we wish him all the luck in the world and hope to be hearing from him one of these fine days. He makes the 41st member of the Commission to enter the service and judging by the prefixes they are starting to put in front of their names they are all doing very well by themselves.

"*Probably* the only news I have for you is that—no, I'd better hold the 'cat in the bag' for just a few more lines. I presume there's been all sorts of guesses as to where I am. What yours is I don't know, maybe you already know and don't need to guess. Anyway, in the GAME NEWS several years ago there was an article 'To South America With the Birds.' That's exactly what I did—followed the birds down here. I see lots of bitterns, kingfishers (red-breasted), and also some others that I haven't figured out exactly so far. Wish I had my 'Birds of America' here. Were it not for the future inconvenience it would probably cause me, I'd have it sent to me. I'm positive I saw mourning doves one afternoon, just a few of them. The place is teeming with bird life. Once in awhile I see a hawk or an owl, but not very often. Egrets, sometimes gulls, vultures, parrots galore and quite often I see a small bird about the size of a bluebird that has all the characteristics and resemblances to our mourning dove. For reasons you've probably already encountered, inquiries only lead into a blind alley. I did get to see a water turkey. No mistaking about that one. As for other wildlife—animals are seldom seen. Monkeys are heard quite often at night, although I have never seen any wild I did see quite a few that were captured. Have an ocelot in a cage here with us. I had to get the book to prove I was right on that one. Everybody had unreliable but nevertheless established reasons for naming it something else. A copy of 'Animals of America' in our little library was convincing enough. Your grand school taught me to look for certain infallible characteristics when identifying birds, animals, or plant life. I adhere to these principles like a leech. Sometimes we get to see some kind of a rodent that is referred to as a rabbit. I cannot connect the two though, as there are no rabbit characteristics present. That's about all the animals I can think of. As far as reptiles go I'm a bit hazy on 'gators or crocodiles, so I don't know which one I see. Sometimes we find a boa. The biggest one I've seen so far was 16½ ft.—we measured it. There are 'oodles' of hummingbirds, all sizes, from the size of our ruby throat to about as big as a sparrow."—Cpl. M. L. Shaffer, Co. A, 898th H B Security Bn., A.P.O. 870, c/o Postmaster, New York, New York.



Conservation Guinea Pigs

(Continued from page 9)



Photo by C. Gordon Krieble.

Trapping ringneck pheasants on propagation area for subsequent banding and release.

mental food supplies, all but the very extreme climatic conditions known to occur within the Commonwealth. (2) Sound management demands changes in current feeding practices. Emergency feeding should be practically eliminated; the construction and operation of feeding stations should be curtailed; while emphasis is placed on the provision of natural sources of living food and cover on areas deficient in these two essentials.

The facts gathered from this work prove the wisdom of the recent changes made in the Commission's feeding program, and they may be used to advantage by all persons interested in improving wildlife conditions.

A Study of Forest-Wildlife Problems. A study of wildlife problems as related to forestry is another project. Included are studies of the silvicultural practices most beneficial to wildlife, how best to correlate forest and game management practices and the effect of fire on game and its habitat.

The study has made available information as to the types of silvicultural operations that are most beneficial to game, as well as the effects of controlled and uncontrolled burning of the forests. These findings are of value in carrying out proper management of lands under Commission control.

The Propagation and Nutrition of Game Birds. The work under this project has been aimed at developing better and more economical game bird rations for use on game farms. Improved rations that are more economical and in some cases better than higher priced commercial products have been developed and put into use by the Game Commission. Then too, rations have been found that exclude a great many of the ingredients that have become practically impossible to obtain since the outbreak of the war.

The current emergency has greatly affected our research program. Since available personnel has been reduced and it has become practically impossible to obtain many of the necessary materials, it has been advisable to curtail present research activities. Projects that could be omitted or temporarily postponed have been excluded but those projects, under which much valuable and irreplaceable information would be lost if they were to be interrupted, have been maintained. After the war, it is planned to expand the research activities again and to continue those uncompleted projects which it has been necessary to suspend.—This is a copy of a paper read to the Ninteenth Annual Meeting of the Pennsylvania Academy of Science at Harrisburg on April 2 and 3, 1943. Reprinted from the Proceedings of the Academy, Vol. 17, 1943.

The Anterless Deer Seasons

(Continued from page 13)

applications, so that if enough permits for the county of the original choice are not available for the entire party permits may be issued as a group for the next available alternate choice.

Any number of applications may be mailed together, without regard to uniformity in choice as to county, *provided a separate remittance is attached to each application.*

If a Hunting Party Kills Six Bucks, Where Does the Permit Holder Stand?—As already stated, a person who during the year 1943 killed a legal antlered buck may not lawfully hunt for or kill an antlerless deer during the special season. However, even though a hunting party kills its limit of six (6) antlered deer during the 1943 season, any member of the group who did not bag one of said bucks may hunt for and kill an antlerless deer on December 13, 14 or 15 if he has obtained the necessary permit.

May Non-Residents Hunt for Antlerless Deer?—No, the special deer permits may be issued only to bona fide residents of the Commonwealth this year.

Are the Permits Issued to Obtain Revenue?—As previously indicated, *the only purpose in issuing the permits is to control the number of persons who may hunt antlerless deer this year in each county opened to such hunting.* The Commission never allows questions of revenue to influence its decisions.

May Unused Permits Be Refunded?—The law makes no provision for the refunding of fees for permits issued, unless erroneously deposited. A hunter who purchases a permit merely assures himself the privilege to hunt for antlerless deer on December 13, 14 and 15, provided he has not bagged a buck prior thereto in 1943.



Here's a big one—a 228 pounder killed by Wm. D. Sassaman, R. D. 1, Northumberland. Game Protector Bruce P. Yeager, comments on it as follows: "I made the statement to you sometime ago that while we do not have as many deer killed in Northumberland County as in some of the other counties we do have some of the largest taken.

Forget—But Remember!

"Remember how you hit 'em—and forget how you miss 'em." These were the wise words of shooting lore passed along by C. C. Mitchell, shotgun shooting champion, to an inquiring novice who wanted to make every shell count.

Mitchell, manager of the Products Service Division of Remington Arms Company, Inc., has probably won more professional skeet and trapshooting titles than any man alive. "In trapshooting, at skeet or in the field," said Mitchell, "forgetting what you did *wrong* and remembering what you did *right* are the most important things to a shooter who wants to become an expert marksman. Many a man has lost a shooting championship because he kept thinking about the one target he had missed. The ones you miss don't count. The ones you hit make up the score. Yes, Bill Crosby, one of the all-time greats with a shotgun said 'Remember how you hit 'em—and forget how you miss 'em.' He gave beginners that advice over 45 years ago. It's still good today.

"Many young shooters, who haven't had proper coaching, become 'recoil conscious' after the first few shots and instinctively move their shoulders back a trifle in an endeavor to soften the slap. This doesn't solve the problem. It only intensifies the punch the shoulder may take. The 'business end' of a gun is the muzzle, not the butt!

"Practice gun handling WITHOUT shooting," continued Mitchell. "The gun should be 'mounted' or come into position, on the shoulder, with one motion. With the left hand on the fore-end, in a comfortable position, the weight of the gun will be supported by the left arm. Turn the elbow slightly to the left, which will allow the wrist to act as a fulcrum. Do not grip tightly with the left hand nor, with that hand, jam the gun against your shoulder. Your left hand and arm act as the guide and support. With your right hand firmly grasping the grip, snuggle the gun against your shoulder. Be sure it's your shoulder, and *not* your arm. This is a common mistake made by many beginners—and a lot of experienced shooters, too, who grow a bit careless. It exaggerates recoil and results in excessive and unnecessary punishment. Standing feet slightly apart and leaning slightly forward to take up the recoil and prevent unbalancing, head erect, swing your gun on an imaginary target—and press the trigger.

"Do this time and time again—until you acquire comfort in the feel of your gun. Always swing a bit ahead of your target before pressing the trigger. When your gun feels comfortable to you every time you put it to your shoulder; when you are 'seeing' that imaginary target and swinging ahead with ease, you are ready for the field or firing line and you don't need to worry about recoil. Its force won't bother you to any appreciable extent.

" 'Recoil-consciousness' may be your difficulty. Take it with your right hand and right shoulder. It won't be too bad. Let your left hand and arm act as a guide and a support, adopt a position which makes your gun feel comfortable to you, make it a part of you; get it on your target, swing a bit ahead—and 'touch 'er off.' You'll get results.

"Confidentially, I know 'how,' but I've never been able to find a gun yet from which all the misses had been removed at the factory. The guns are all right—we put in the misses by our own errors. Instructing a shooter by remote control is difficult, but my advice is that of Bill Crosby—'forget how you miss 'em and remember how you hit 'em' ".



Now is the time to build feeding shelters where they are needed.



Photo by John B. Miller.

Game Protector Charles Shannon spreading fertilizer on game lands near Meeserville, Snyder County.

In Pennsylvania, men and women in industrial labor comprise 67.3% of the number of registered hunters. "White collar" workers total 11.8%, while farmers represent less than 10% of the license-holders. The age range for the majority of Keystone State hunters is from 15 to 40 years.

Livestock Wanted

Wanted: Fightin' dogs must be 20 inches or more in height at shoulder and weigh over 50 pounds. Contact Lt. W. Newbold Ely, Director for Pa. Dogs for Defense, Ambler, Pa.

Swap!

Good hard cash in return for scrap metals, old newspapers, etc. See any junk dealer.

For Sale

Cheap—One slightly used Axis Dictator—Shares may be purchased now in two additional ones for delivery in near future at $18.75 per share. U. S. Treasury or any post officer or bank. Buy more bonds!

OFFICIAL 1943 OPEN SEASONS AND BAG LIMITS

(All Shooting Hours Based on Eastern War Time)

Open season includes both dates given, Sundays excepted for game. **On October 30 no hunting of any kind before 9 A. M.** With this exception, non-migratory game shooting hours daily are 8 A. M. to 6 P. M., except from July 1 to September 30 inclusive, 7 A. M. to 8:30 P. M. (See Migratory Game shooting hours below; also notes on setting traps in open counties.) Raccoons may be hunted at night, with a noon-to-noon daily limit.

UPLAND GAME (Small game possession limit three days' bag)	Bag Limits Day	Season	Seasons Open	Close
Ruffed Grouse	2	10	Oct. 30	Nov. 27
Quail, Bobwhite	5	15	Oct. 30	Nov. 27
Hungarian Partridges (Cumberland and Franklin Counties only)	2	8	Oct. 30	Nov. 27
Wild Turkey (See 9 counties closed below)*	1	1	Oct. 30	Nov. 27
Ringneck Pheasants, males only	2	12	Oct. 30	Nov. 27
Rabbits, Cottontail	5	25	Oct. 30	Nov. 27
Squirrels, Gray, Black and Fox (combined kinds)	6	24	Oct. 30	Nov. 27
Squirrels, Red	Unlimited		Oct. 30	Sept. 30, 1944
Grackles (commonly called Blackbirds)	Unprotected until Sept. 30, 1944			
Hares (Snowshoe Rabbits)	2	6	Nov. 22	Nov. 27
Raccoons, by individual or hunting party: Upper Zone: (11 counties)*	3	15	Oct. 20	Jan. 15, 1944
Lower Zone: (56 counties)*	3	15	Oct. 30	Jan. 15, 1944
Raccoons, by trapping (See 7 counties closed below).* Traps not to be placed before 8 A. M. opening date		15	Nov. 10	Jan. 31, 1944
Woodchucks (Groundhogs)	5	Unlimited	July 1	Sept. 30
Bear, over one year old by individual	1	1	Nov. 15	Nov. 20
Bear, over one year old by hunting party of three or more	2	2	Nov. 15	Nov. 20
Deer, male with two or more points to one antler	1	1	Nov. 29	Dec. 11
Deer, as above, by hunting party of six or more	6	6	Nov. 29	Dec. 11
Deer, antlerless (See 8 open counties below)*	1	1	Dec. 13	Dec. 15

NO OPEN SEASON—Sharp-tailed Grouse, Doves, Cub Bears and Elk.

FUR-BEARERS—(Traps not to be set or placed before 8 A. M. on any opening date.)

Minks and Skunks	Unlimited		Nov. 10	Jan. 31, 1944
Otters (See 7 open counties below)*		4	Nov. 10	Jan. 31, 1944
Muskrats (By traps only)	Unlimited		Dec. 1	Jan. 31, 1944
Beavers (Traps only, 22 counties)		3	Feb. 15	Feb. 29, 1944
Opossums	Unprotected until Sept. 30, 1944			

SPECIAL COUNTY REGULATIONS

Turkey—No Turkey season in Clarion, Clearfield, Elk, Forest, Jefferson, McKean, Potter, Warren, and Westmoreland Counties.

Raccoon Hunting—

Upper Zone: This zone comprises the counties of Bradford, Cameron, Clinton, Elk, Lycoming, McKean, Potter, Sullivan, Susquehanna, Tioga, and Wayne. Season begins noon opening date.

Lower Zone: This zone comprises the counties not listed in the Upper Zone. Season begins 9 A. M. opening date.

Raccoon Trapping—Counties of Beaver, Cambria, Dauphin, Lancaster, Lawrence, Northampton and Schuylkill closed. Bona fide occupants (citizens) who are cultivating land may trap raccoons thereon in said counties.

Antlerless Deer—May be taken only in the counties of Cameron, Clinton, Lycoming, McKean, Potter, Sullivan, Tioga and Warren. Farm occupants (citizens) who are cultivating land may hunt such deer thereon in said counties without a permit. All others must secure $1.00 permit from Game Commission. See summary issued with license for details. (Non-Residents not Eligible.)

Otters—Trapping only in Lackawanna, Luzerne, Monroe, Pike, Susquehanna, Wayne and Wyoming Counties.

Beavers—Trapping only in Bradford, Butler, Cameron, Carbon, Columbia, Centre, Clearfield, Elk, Jefferson, Lackawanna, Lycoming, Monroe, Montour, Northumberland, Pike, Snyder, Sullivan, Susquehanna, Tioga, Union, Wayne and Wyoming Counties. **Non-Residents may not trap beavers.** One person may set, tend or operate 10 traps only. Trappers required to keep tags above ice or waterline to facilitate identification without disturbing traps. **Pelts must be tagged within ten days after season.** Present them to Protector in District or County where taken.

Snares—May be used without springpoles for taking predators in Clarion, Forest and Warren Counties, December 16 to March 31, 1944.

FEDERAL SEASONS MIGRATORY GAME BIRDS*

	Daily Limits	1943 Open Seasons (Sundays Excepted)
Rails and Gallinules (except Sora and Coot), combined kinds	15	Sept. 1-Nov. 30
Sora	25*	Sept. 1-Nov. 30
Coots	25*	Sept. 25-Dec. 3
Wild Ducks (see Restrictions)*	10*	Sept. 25-Dec. 3
Wild Geese and Brant	2	Sept. 25-Dec. 3
Woodcock	4	Oct. 1-Oct. 15

***RESTRICTIONS**—In the daily duck limit, only 3 Redheads or 3 Buffleheads, or 3 of these species combined, AND ONE (1) WOOD DUCK, may be taken.

POSSESSION LIMITS—Ducks, Geese, Brant and Woodcock, twice the daily bag (except on opening day), but only one (1) Wood Duck; other species, daily bag only. Possession 45 days after season.

DAILY LIMITS—Sora and Coots, 25 of the combined kinds, or of either species.

SHOOTING HOURS—(Eastern War Time). All migratory game birds: From beginning of respective open seasons to October 29, inclusive, one-half hour before sunrise to sunset; Oct. 30, 9 A. M. to 6 P. M.; Nov. 1 to end of respective seasons, 8 A. M. to 6 P. M. (unless sunset occurs earlier, when Federal sunset regulation automatically applies).

EXCEPTION—On the open waters of Lake Erie the Federal one-half hour before sunrise to sunset regulation applies throughout the waterfowl season, except on Oct. 30, when shooting before 9 A. M. is unlawful.

Hunting the Headlines

(Continued from page 28)

When deer hunting season rolled around the men in camp became fearful that their pets would fall victims of rifle fire so they knitted red sweaters and hung bright ribbons around their necks.

The first day of the season a group of Pittsburgh hunters arrived and Maggie trotted out from the camp and nuzzled one of the men, and pawed at him, expecting that he would be forthcoming with a tid-bit.

"By gawsh," gasped the smoky city man, "I heard tell deer were plenty around Warren but I'LL be darned if I thought they would come out and shake hands with a fellow."

But Maggie is missing. There isn't much doubt of her fate despite the red sweater and bright ribbons. She has probably been sent to the happy hunting grounds by some nimrod who took Maggie's sweater home to his wife. The vets at the camp are optimistic and hope that when the tumult and shouting dies, Maggie will return to the only home she has ever known. Jiggs came through all right but mopes about the camp as a real widower should.

Hunter Kills Elk on Trails
Huge Animal is Abandoned After Being Shot Breaks Animal's Neck with Gun Butt After Firing Last Shot

And so went the famous 1940 deer season. Tallies showed an all time high for slain deer. Over 180,000 deer of both sexes were taken home as venison. This would make a considerable cut in the ranks of our favorite game animal it seems, and so it did. But Oh, the irony of it all. The following month we read:

Bus Delayed by Deer Herd

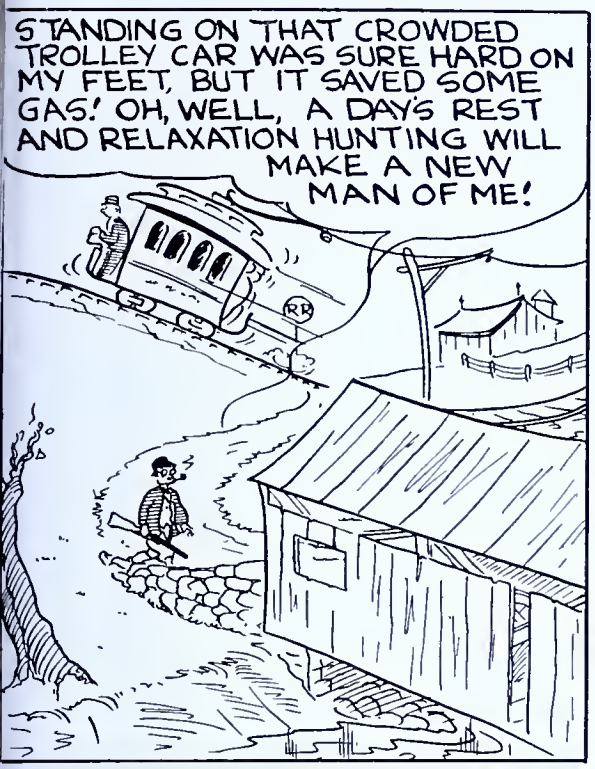
A motorbus from Pittsburgh with 37 passengers, was delayed for half an hour when a herd of eleven deer confused by the weather, or worry over the war, began milling about on route six. The driver with the aid of the passengers finally drove the frightened animals off the road into the woods.

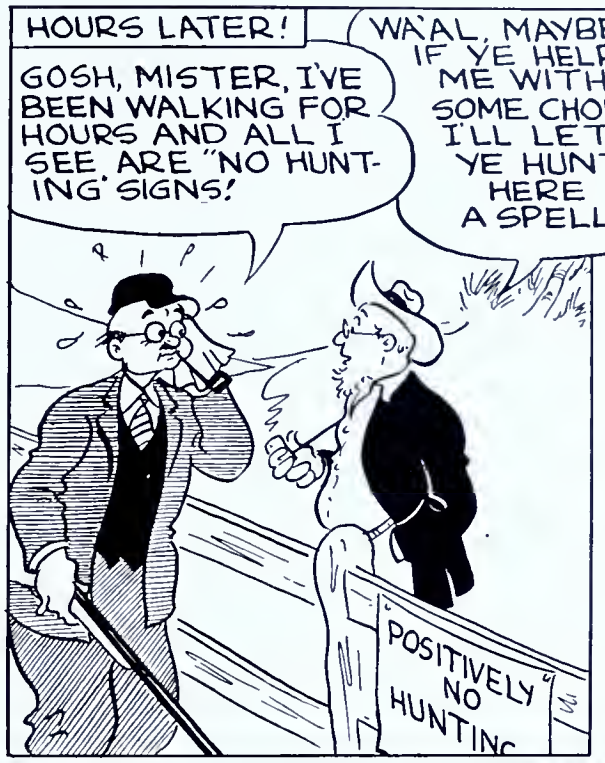
This is Pennsylvania.



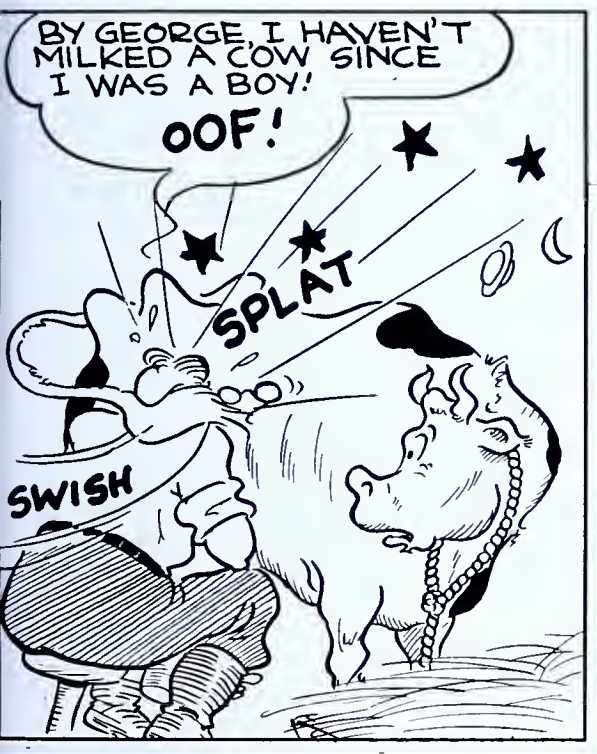
Fine 10-point bagged by Milton Fenninger, Reamstown, in Lycoming County last season; his first in 10 years of hunting.

THE FAMILY OF A. HUNTER, ESQUIRE—EPISODE NO. 31



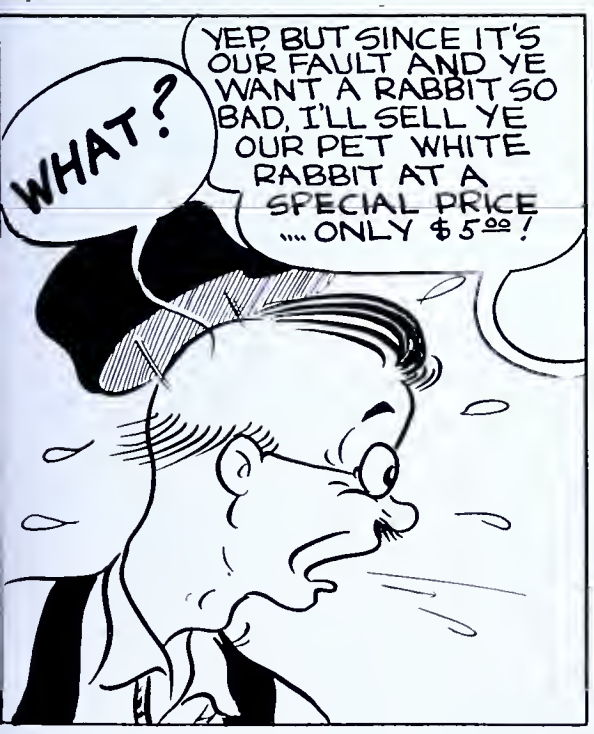


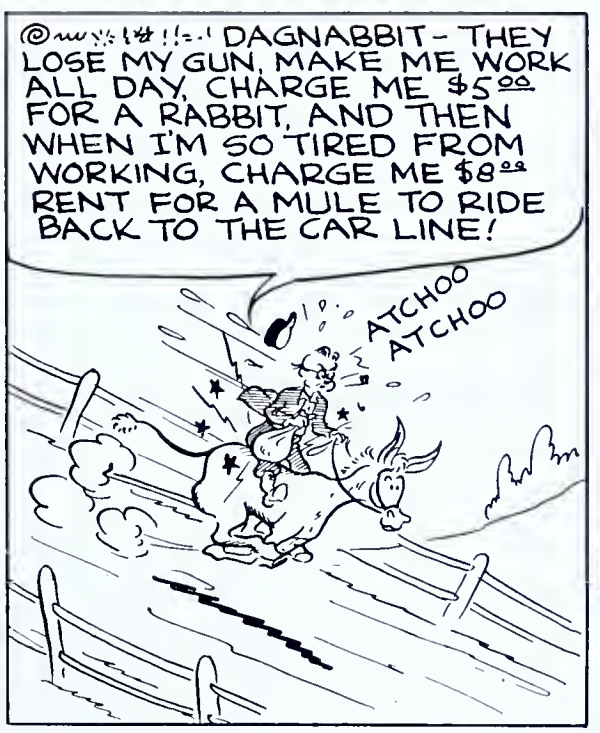


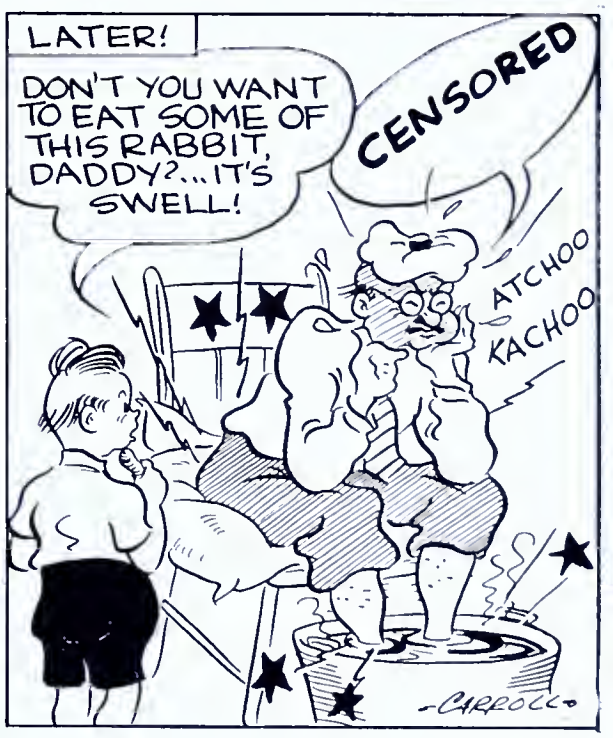












BUY WAR BONDS

AND

BACK THE ATTACK

PENNSYLVANIA

GAME NEWS



November 1943

Ten Cents

P 3834
16

Bob Hines.

PENNSYLVANIA GAME NEWS

PUBLISHED MONTHLY BY THE PENNSYLVANIA GAME COMMISSION, HARRISBURG, PENNSYLVANIA

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VOL. XIV, NO. 8

EDITORIAL

NOVEMBER, 1943

IN THIS ISSUE

☆

The Dog
By Hon. Harry B. Hawes

★

The Eternal Question
By G. I. Phillips

★

Don't Waste the Game Crop
By James and Alice Wilson

★

How to Handle Your Gun in the Field
By The Editor

★

Sex and Age Determination of Wild Turkeys
By Leon P. Keiser
Edward L. Kozicky

★

The Muskrat
By Paul L. Failor

★

Fur Trapping Methods
By S. V. Sedlak

★

Planting Trees for Posterity
By John M. Phillips

★

Wildlife Conservation
By William Grimm

☆

Cover by Robert Hines

Let's Be Thankful— and Vigilant

When Abraham Lincoln signed the proclamation calling for a day of Thanksgiving and prayer he said that the people of America brought an entirely new idea into the world—liberty and the proposition that all men are created equal. He also said that America, through tears and blood, is finding a new birth of freedom; that we are at war in order that democracy—he called it "Government of the people, by the people and for the people"—shall not perish from the earth.

America has gone a long way since those memorable words were penned. True, her people have seen the further ravages of war, but they have always emerged successful and more determined than ever to uphold their ideals, and to fight for liberty and the many heritages that liberty guarantees.

Today America is fighting another great war in company with allies equally determined to end once and for all the demands of the agressor and to pave the way for world peace, happiness and security. Together we shall win that war no matter how great the sacrifice—and it will be great. But no matter how much suffering we have to bear, no matter how much skimping and scratching we have to do, no matter how many discomforts we are compelled to undergo, and we haven't undergone many yet if we'll admit it, let us on this Thanksgiving Day be truly thankful that we are Americans and that we have been blessed with an abundance of things which tend to make our lives healthier and happier. Our sacrifices in most instances have been, after all, the simple giving or sharing of the things of which we have plenty.

As we contemplate these things let us be ever mindful of our duty as sportsmen to preserve here at home that heritage which so many of our comrades in the Service will be thinking of as Fall approaches—hunting. They're really going to miss their sport this year, but a time is coming when the necessity for killing or being killed will end and there will be that joyous return to home and family, to gun and dog, to rod and creel. Between now and that time a tremendous obligation rests with those of us who are looking after the interests of wildlife—not only the Game Commission as administrators of that wildlife, but each individual sportsman. Let's not shirk that responsibility. Hunt clean this season, save every pound of edible meat, don't waste shells, and share with your less fortunate buddy.

Game administrators and sportsmen all over the country will be pleased to learn that U. S. Senate Bill S.-1152, introduced sometime ago by Senator Pat McCarran from Nevada, ostensibly for the conservation of wildlife on public lands, but in reality to permit Federal officials, at their discretion, to take over the control of hunting and trapping on such lands under license, and to permit the sale of game animals without regard to State rights or conservation laws, died a very ignominious death after having been referred back to Senator McCarran's own Committeee. It was buried under an avalanche of protests from one end of the country to the other. Let's hope it stays buried, and that any problems which arise are handled in a cooperative way.



ACME.

ARMY DOGS STAR IN WAR BOND PARADE—NEW YORK CITY

Army dogs pace alongside their trainers in the big Fifth Avenue Parade that marked the start of the Third War Loan Drive. They got a big hand during the procession of 3,000 troops and their war equipment. These dogs were recruited through Dogs for Defense, Inc. Any patriotic sportsman wishing to help raise war dogs should write to Lt. W. Newbold Ely, Dogs for Defense Breeding Committee, 226 Walnut St., Philadelphia.

THE DOG



By Hon. Harry B. Hawes

Reprinted from the Congressional Record, February 3, 1923, Washington, D. C.

THE modern dog has developed in much the same way as our domestic fowl and utility animals, but he must not be classed with these, because his association with man is closer and more personal and is better described as "domesticated" than "domestic."

We find his drawing upon the tombs of Egyptian kings, upon the tiles of the Assyrians, in the sculpture of the Greeks and Romans.

Wherever civilization has advanced to the art of painting or printing he finds a place.

He has not been neglected by history or forgotten by the poets.

The religious books of all Pagan nations find a place for him, and he is mentioned in both the Old and the New Testament.

Columbus discovered him in the West Indies, our American Indians found him useful, and whether at the North Pole or the Equator he has had a home and a place in the affairs of men.

There are more different breeds of dogs than of horses, cattle, sheep, or poultry.

He is the oldest domesticated animal, and assisted his master to procure food and defend against his enemy before horses, cattle, and poultry came under control.

His story runs back to prehistoric times. He was used as a sacrifice upon the altar of Pagan gods. His place in history, art, fiction, and poetry ranks second only to man.

Next to man he ranks highest in intelligence, being susceptible to all human passions—hatred, love, fear, hope, joy, distress, courage, timidity, and jealousy.

Man requires service from all animals, but only from this one receives friendship. He is the only animal that eats all of man's food, flesh and vegetables.

Man is taught chivalry; the dog has it naturally. He never attacks the female of his species.

He is the delight of the poor man's hovel and the rich man's mansion. Faithfully follows his master who tramps the dusty roadside, and sits proudly upon the cushioned seat of the millionaire's de luxe machine.

Wealth, caste, social distinction are all one to him. He is content and useful in every station assigned to him by fate.



But he knows the just from the unjust, the kind from the unkind, the charitable from the uncharitable, the true from the false, the man from the hypocrite.

Disguise does not deceive him. Paint, tinsel, silk, and jewels are no more to him than tatters, rags, worn shoes, or ragged hat. But it is what these things cover, the man, who wins his affection or dislike.

His master's friends are his friends, his master's enemies are his enemies, no matter what their station.

He does not count the cost, but gives his life at his master's command, and, even without command, in his master's defense.

When master is gay he is merry; when sad, he grieves and understands his master's moods.

The destruction of an army, the fate of a nation, has been decided by a dog's bark.

With teeth bared, eyes ablaze, and hair abristle, he has saved a wife and child from assault and then played nurse all day.

With devoted strength he has rescued his master from a watery grave and dragged a child from an angry fire.

Over bleak and frozen mountains he has carried food and drink and brought assistance to the wounded and those in dire distress.

Peary could not have reached the North Pole nor Scott the South Pole without the faithful dog.

He has taken the place of the horse and the ox, his skin has been used for shelter and for clothes, his flesh as food, his eyes have found the things his master sought, his nose has bared the trail his master could not find.

And in return he asks but a little consideration and a few kind words:

Never yet the dog of our country fed
Betrayed the kindness or forgot the bread.

As friend, companion, and confidant I like him best. His manifold uses need little discussion.

One small dog in a home has more terror for the burglar than an armed man outside. In the yard he sounds the warning and the night prowler sneaks away.

When properly trained he can handle cattle, sheep, and swine better than a man. He excels as a ratter and destroyer of mink and other vermin.

All have seen the blind man's dog, cup in mouth and attached to a string, leading his sightless master.

Before the days of cooking stoves each household had its open chimney and "turn-spit" worked by a dog, and even today the dog on a treadmill churns the butter.

The expressman and peddler, in delivering their packages and wares, usually leave a four-footed guardian in charge.

Troupes of performing dogs delight the audiences in our vaudeville houses and demonstrate what they can do when skillfully trained.

There are many thousands of farms in the United States. Practically all have one dog; frequently two or more. They guard the home, destroy destructive animals, act as companion and care for the stock, and protect the garden and orchard.

During the last war the French, Belgians, and Germans successfully trained many thousands of war dogs.

These war dogs, like soldiers, are taught implicit obedience, their acute hearing and sensitive nostrils were used in giving notice of enemy approach, discovering the wounded, and many times give first aid for the Red Cross.

It would be unfair to forget the ladies and their pet or toy dogs.

While not fancying these little toy dogs myself, they seem to fit into the city household very comfortably, and are intelligent and companionable. They display a degree of affection unequaled in the animal world.

We all remember the account of the lap dog of Mary, Queen of Scots, which accompanied her beautiful mistress to the scaffold and continued to caress the body after

(Continued on page 20)



The Eternal Question

by G. L. Phillips

"Then the little Hiawatha
Learned of every bird its language,
Learned their names and all their secrets,
How they built their nests in Summer,
Where they hid themselves in Winter,
Talked with them whene'er he met them,
Called them Hiawatha's Chickens.

"Of all the beasts he learned their language,
Learned their names and all their secrets,
How the beavers built their lodges,
Where the squirrels hid their acorns,
How the reindeer ran so swiftly,
Why the rabbit was so timid,
Talked with them when'er he met them,
Called them Hiawatha's Brothers."

—*Longfellow.*

IN the early autumn when the leaves begin to color and "the Hunting Winds are loose," what sportsman has not longed for the so called good old days, when according to tradition, Penn's Woods teemed with game and the streams were full of fish . . . surely the cup would be full and nothing more could be desired. But should the wish be granted, would the present-day Nimrod then be satisfied? It is extremely doubtful if any of us would be content with living conditions in the Pennsylvania of several centuries ago for more than a few short weeks; even though the woodlands did abound with game. Our modern conveniences and way of life are of more importance to us than we realize.

Civilization marches on. But what a march of destruction of our natural resources it has made in America. Forest land denuded, soils eroded, water polluted, and wildlife decimated. The problem confronting the sportsman today is not one to be solved by wishful thinking. Well planned action is required if we are to repair the damage and restore at least some of the losses suffered by our game birds and animals. How can this best be accomplished and still retain the advances made by civilization? The answer of course is conservation. In dealing with conservation and restoration of wildlife, we must strictly adhere to two basic principles. The first is to provide the proper environment and the second is to take no more than the annual increase.

Mention the word conservation to the average licensed hunter and he is in a quandary. He has heard some of his friends talking about it, but deep down in his heart he is opposed to it, because of his lack of knowledge of what it really means. He feels that in some way or other it will place additional restrictions on his sport. Speak of research and it will usually bring forth violent opposition for he believes that money so spent is money wasted from which he will derive no personal benefit. He is much more interested in the supply of game he will find in the woods and fields than he is in a program about which he knows little or nothing. He does not realize that in the pursuit of his sport and by taking a certain amount of game each year, he is playing an important part in conservation. The surplus over and above what should be left for next year's breeding stock must be removed and it is here that the hunter assumes his vital role. The fact many hunters fail to recognize is that the surplus MUST be removed. When this principle of conservation is ignored we have a condition such as existed a few years ago when deer were so plentiful in many sections of Pennsylvania that they were starving. They threatened to destroy not only their own range, but the food and cover necessary for the welfare of other game—a condition we are again rapidly approaching. South Dakota had an experience with the ringneck pheasant and Pennsylvania is having trouble with the same bird where, in a few sections, they are causing considerable damage to farm crops. Many other instances can be cited where the failure to remove the surplus game from a given area has caused material damage. But the hunter should also keep in mind that there MUST always be left a sufficient number of breeding birds and animals to supply next year's harvest.

However, in order to have abundant harvests, we too must have proper environment for our breeding stock. Wildlife conservation is but in its infancy (a little over forty years old in Pennsylvania) and the wonder is that we have been able to make so much progress with so few facts on which to found a program. Many of the advances made so far have been by the trial and error method; often a very costly form of research, but in the absence of known facts, it has been the only method available. Quick results have been demanded and many proposed remedies have been tried, but with frequent negative results.



The most spectacular conservation program in recent years is one about which we all have some knowledge—the restoration of our wild waterfowl. A program that was based on facts gained through research over a long period of years and consummated with the reestablishment of proper environment and the maintenance of necessary breeding stock.

Drainage, drought and over-shooting had so depleted our supply of ducks and geese that by 1935 (only eight years ago) a number of the best informed men of the U. S. Biological Survey, now the U. S. Fish and Wildlife Service, felt that our migratory waterfowl were on the way out and that no power on earth could save them. From an estimated number of 20 million migrating at that time, they have now increased to well over 100 million. In fact, in a few sections of the country they are now causing appreciable damage to grain fields during their migration. Our ducks and geese seem to have been saved for posterity unless in the future we forget the fundamental principles of conservation and go back to our former practice.

This astounding recovery did not just happen, but was the result of the proper application of known facts.

About the beginning of the twentieth century a few people began to realize what was taking place but did not know just what should be done to remedy the situation. In 1904 Jack Miner established his bird sanctuary at Kingsville, Ontario, and started banding a few of the ducks making use of his refuge. Others followed suit until eventually the American Bird Banding Society

* Member, Pennsylvania Game Commission.

was formed which carried on bird banding in the United States and Canada until 1920 when the work was taken over by the U. S. Biological Survey. Since that time the work has been so expanded that by now the total number of birds banded is well over four million.

Data resulting from the banding of ducks and geese provided the necessary information from which the flyways and migration routes of the different species were determined. Natural history studies carried on over a period of years had discovered the nesting and feeding habits of the different kinds of ducks and geese and the best possible environment for their nesting and wintering areas.

After the treaty with Great Britain in 1916 attempts were made to restore our migratory waterfowl by limiting the harvest. Spring shooting was abolished but the destruction of the nesting sites through unnecessary drainage more than offset what was gained by trying to limit the annual kill. In 1929 the Migratory Bird Conservation Act was passed and work was started on restoring some of the damaged habitat. This program lagged due to insufficient funds. During all this time our ducks and geese were found in rapidly decreasing numbers. Then in 1934 the so called Duck Stamp Act was passed and more money became available for the work.

Our neighbor Canada has also contributed much in the way of marsh and lake restoration aided by funds from the U. S. A. supplied by sportsmen contributing to "Ducks Unlimited". But the main reason this restoration program was finally successful is because of its foundation of facts.

The Fish and Wildlife Service KNEW where to establish the refuges so that they would be located on the flyways where they would do the most good. They KNEW where to set aside the sanctuaries within the wintering areas so that a sufficient breeding stock could be returned to the nesting grounds. They KNEW the proper depth to restore the marshes and lakes so that they would be suitable nesting and resting areas for the different kinds of ducks that would use them. They KNEW the proper vegetation to plant in the restored areas so that the various species visiting them would have the right kind of environment. They also KNEW the proper soil and water acidity, which governed them in the selection of the proper planting materials. It is needless to point out that without research this program would have been a failure.

We can not hope to see such spectacular results from many game restoration projects because of the difficulty in obtaining a large scale ideal environment for any particular species of game. The white-tail deer staged a remarkable recovery in Pennsylvania in the large cut over forests throughout the state when afforded adequate food, cover and protection. The problem now is how to determine, in an ever changing environment, the proper size herd that should be left for breeding stock, and also how to take the annual increase without drawing too many complaints from sportsmen and others interested in wildlife.

Game management and game-land management are practically new enterprises, and we still have much to learn about environment. We must learn more about feeding habits of the various birds and mammals, interrelationship of the different species, predator relationships and control, sylviculture, etc., if we hope to perpetuate the sport of hunting and manage our wildlife resources to the best advantage.

These things can best be determined by research if it is conducted in the proper manner. Very often a research project is denounced because we feel that it has no particular value in the conservation program in which we are interested. How many sportsmen were there thirty or forty years ago who felt that bird banding was any more than a hobby? Little did they realize at that time that it would prove to be the basis for one of the most successful game restoration programs ever tried. It is true that in the past some research activities have been hastily and poorly conducted and consequently erroneous conclusions were drawn which when put into practice proved to be false, but these have been in the minority. A little knowledge is a dangerous thing; unless all of the facts are known we may form false ideas as to the value of certain birds and animals in a conservation pro-

(Continued on page 26)

Penn's Woods teemed with game and the streams were full of fish.





Elk on the feeding ground on the lower lands of the Izaak Walton League addition, Jackson, Wyoming.

Don't Waste the Game Crop*

By James and Alice Wilson

WHAT would you think of a cattle rancher who harvested only half his annual beef crop year after year and kept the rest to increase until his herd destroyed the range and starved to death?

America is doing just that with much of its wild game. And lest you think the game crop is a mere drop in the bucket of our wartime meat shortage, consider that in 1942 American hunters harvested more than a quarter of a billion pounds (full dressed) of wild meat, most of it produced on forage which domestic animals don't eat, and harvested in people's spare time as a by-product of their recreation. Hunters harvested almost a fifth as much food, by weight, as all the commercial fisheries of the United States and Alaska!

That harvest could have been increased, in many areas, from fifty to five hundred per cent with actual benefit to game herds and flocks, and this would have added at least one hundred million pounds to the nation's dwindling meat supply.

Spectacular game surpluses—that is, unharvested crops of wild animals and birds—exist in almost every section of the United States. The species whose over-crowding has become a problem in spots include deer, elk, antelope, reindeer, ducks, pheasants, and rabbits. They innocently interfere with wartime food production in the most unlikely places. Virginia last year declared an open season on elk, which were damaging hay and forage. As for the Western and Lake States, they contain hundreds of problem areas where deer or elk exhaust their winter food supply, encroach on crops and livestock range, and finally die of starvation by thousands.

This state of things—combining as it does an appalling waste of food, destruction of a basic natural resource, and cruelty to animals—is intolerable and must be ended.

You may wonder where all the game has come from, for only yesterday everyone was saying: "Hunt with a camera instead of a gun." Most people still think all species of game are dying out. But they are about ten years behind the facts.

During the last century, when American hunters were not restricted by game laws, they harvested not only the annual game crop but most of the breeding stock as well. Suddenly sportsmen realized that the game was almost gone. The passenger pigeon and heath hen had already just about disappeared for good. The bison in its wild state was gone. Of the bighorn sheep and mountain goat, only a few head remained. The antelope, which once had roamed the plains in seemingly inexhaustible herds, was practically extinct. In a few years even deer and elk would be gone.

And so the conservationists appeared—in the nick of time. The public was converted. Legislators passed game laws. We established refuges, killed off such predators as coyotes, mountain lions, and wolves, and restocked areas where game had been killed out. We spent millions of dollars to restore northern breeding grounds for ducks. Newspapers, magazines, clubs, schools, Boy Scouts, Izaak Waltonites all preached the gospel of conservation: "No true sportsman ever kills a female."

Not only was the campaign successful; in recent years it has been so extra-successful that the chief topic of discussion among game administrators at the North American Wildlife Conference of 1943 was: "How on earth are we going to harvest all this game?" The big-game population of the United States has doubled about every ten years since 1908, increasing from an estimated 500,000 head to 6½ million head in 1943. (Of these, about 6 million are deer.) Pheasants, introduced from China in 1881, last year supplied a harvest of 15 million birds. The duck population of North America, which hit an all-time low of 27 million in 1934-35, has bounced back up to 120 million, and is climbing at the rate of ten to twenty per cent a year.

Game is like domestic stock in one respect. There is an annual crop, and if it isn't harvested, herds and flocks eventually outstrip their food supply. Drastic protection of all game everywhere was necessary to restore the depleted breeding stock. It isn't necessary any longer. Harvesting of crops is now just as important as protection of breeding stock in maintaining a balance between the game population and its food supply, despite the fact that a nation with a fifty-year-old tradition of indiscriminate protection cannot bring itself to believe that there could possibly be too many deer in Michigan, too many elk in Jackson Hole, too many pheasants in South Dakota, or too many ducks in western Washington.

The problem has been serious enough during the past few years. Now that the war has brought a shortage of hunters, ammuni-

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EDITOR'S NOTE: *The following article which appeared in the August 1943 issue of* Harper's *Magazine, "Don't Waste the Game Crop!" by Mr. and Mrs. Wilson, is a very readable story based on information which the Wilsons collected in conferences with many of those present in Denver for the Eighth North American Wildlife Conference. This article presents information that will be extremely valuable to each of you; many will no doubt want to file it away for future reference.*

tion, and gasoline it has become desperate indeed. For game won't stop breeding just because there's a war. Yet the conception of wild game as producing an annual crop that needs harvest is hard for the public to accept. For instance, a few years ago the people of Colorado discovered that deer and elk in certain areas were starving by thousands on the threadbare winter range. Unwilling to see the animals killed, they shouted: "Feed 'em hay!" The State of Colorado has spent almost $200,000 feeding them hay and concentrates. But the deer couldn't live on such fare, for a deer digests hay about as well as you do. His natural food is browse—shrubs, bark, twigs, and leaves. Pittman-Robertson studies indicate that a deer's digestive apparatus to function properly for any length of time needs a diet of 80 to 90 per cent browse, an elk's about 50 per cent.

This spring the Colorado Game Department burned the carcasses of 2,400 dead deer near the feed grounds in the Gunnison area alone. This loss was 40 to 50 per cent of the deer that were fed. For several years, over Colorado as a whole, more deer have lost their lives during the winter than have been killed by hunters. Obviously you can't save them by feeding them. The only way to salvage the meat that is going to waste is for hunters to harvest it. If hunters don't, starvation and predators will.

But the public cannot yet believe that this is true. Popular demand still insists that other States follow Colorado's lead and spend tens of thousands of dollars feeding deer artificially.

II

There is no *general* surplus of game—yet. But there are hundreds of *specific local* surpluses which will develop into a general surplus if not harvested. Colorado alone has about two dozen perennial problem areas.

Our national forests contain some of the most crowded game "slums" in the world. For example, while the one-and-one-half-million-acre Fishlake Forest in Utah will carry 30,000 deer through the winter, the present population is 60,000. Fishlake bucks are so thin you can "slit the hide and shake out the bones." Last year's winter loss on the Fishlake was 42 animals *per square mile* —about 4,000 pounds of meat, dressed—on 25 per cent of the range. And this in a time of meat shortage!

In Malheur National Forest in eastern Oregon the deer range had been worn down to the fabric before Oregonians would agree that the herd should be cut. Even the presence of 1,200 dead fawns on six square miles wasn't evidence enough. The Forest Service sought relief from the State Game Commission, but it in turn had to wait for public support. It waited four years. Malheur Forest is still grossly overpopulated, despite repeated efforts to whittle down the herd.

Conditions are almost as bad in the Lake States. Even in the Allegheny and Pisgah National Forests of the East, says the Forest Service, the deer population "should be cut down somewhat."

The 1942 census of all our national forests showed a total of 2,000,000 deer and 165,000 elk. Under favorable conditions a deer herd will double in two to three years, an elk herd in three to five years. The annual national-forest crop is about 600,000 animals. Last year an estimated 300,000 died of malnutrition or were killed by predators; hunters took only 180,000. And still the big-game population increased by 120,000—all destined for future harvest by hunger and predators. Dr. H. L. Shantz, Chief of Game Management of the Forest Service, says: "A reasonable estimate would suggest that at least 600,000 deer and 30,000 elk should be harvested from the national forests by hunters, besides those taken by predators and starvation, to restore the balance between animal life and range."

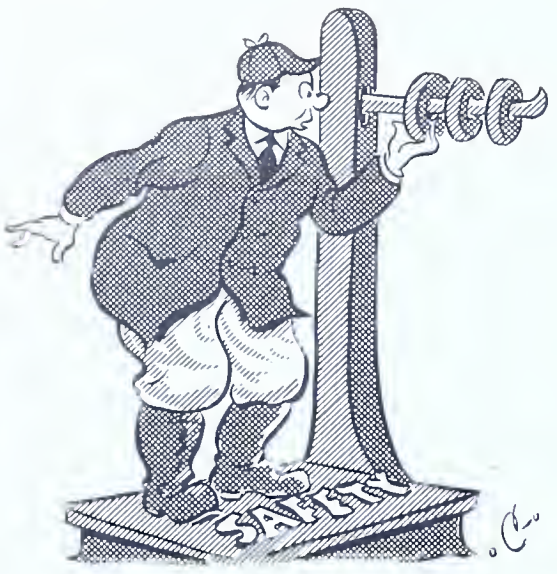
Conditions are even worse in certain areas outside the national forests. In the West most national-forest land is high-altitude summer range, of which there is plenty. The losses from starvation occur on low-altitude winter range—mostly private, State, and other Federal lands—of which there is a much smaller acreage available to big game. Much of this lower range is preempted by domestic stock. Much of it is grass—unpalatable to game animals—instead of the shrubs and brush which they prefer. More important still, dry, dormant winter forage does not renew itself until spring.

Since 1927 hunters have harvested only about one-third of the annual deer crop and about two-thirds of the elk crop. If wartime conditions make an adequate har-

(Continued on page 22)



Heavy concentrations of ducks like the pintails seen over the Sacramento National Wildlife Refuge in California are becoming more common throughout the country as the birds take advantage of refuges and restrictions on hunting. Duck numbers have doubled in the past five years.



Weigh yourself on the scales of safety.

How to Handle Your

IF you want to return home from your hunting trip happy and still be of service to your family and your country then you had better weigh yourself on the scales of safety so you will know how to act and how to handle YOUR gun properly.

Safety depends more on the state of mind than on rules to be memorized, or on safety gadgets on the firearms themselves. Just remember that you are armed with a lethal weapon capable of causing you a lot of joy or a lot of sorrow, depending upon how carefully you handle it. Which of these emotions are you going to experience when you hang up your gun at the end of the season?

Here are a few ounces of prevention. First of all assume that all guns are loaded. Remember that *the only safe gun is the gun safely pointed.*

Never fumble with the trigger absent-mindedly. Many times guns have been discharged through such carelessness. They have also been discharged on a path in the woods by a twig striking the trigger when the gun was on the shoulder, when the hammer was left pressing in down position upon the primer instead of resting in half cock position, or when left fall on stones on trails in the woods, places where they should never be carried loaded.

The "safety" should always be used, even though time may be a factor. The hammer should be kept at half cock on rifles with outside hammers, and the "safety" on in cases of hammerless rifles and shotguns. The "safety" should also be kept on bolt action rifles or the bolt slightly raised. But, unless game is expected momentarily it is far better to carry a rifle *with no cartridge in the chamber.*

When you get a shot you can work the lever or bolt quickly as you swing the gun to your eye and you are actually safe, with speed. Many accidental discharges of rifle and shotguns have been caused by hasty and fumbling attempts to unlock safety locks at the last second. As a practical proposition a gun (repeater) without any safety lock might be a safer proposition than one with a lock not free-working or very inconveniently placed. I think everybody has had the experience of throwing a shotgun to his face and yanking on the trigger or triggers while the game got out of range because the safety locks were on.

Learn to control the pointing of your gun, rely on the safety lock (at times), but remember that *blind reliance* upon it may let you down and make you shoot your friend as well as fail to shoot your game. Keep the hammer at half cock or fully cocked. Hammerless shotguns and all outside hammer guns will rest their primer plungers on the live primers if you don't. In that position a chance light blow, or a jar, may fire it.

Clumsy handling of guns is responsible for many accidents. The holder jams the action, fumbles the triggers, lets the gun drop from his hands. Wear gloves in cold weather; many an accidental shot has resulted from the fumbling of stiff fingers.

Keep obstructions such as hoarfrost, snow, ice, water, mud, sticks, cleaning patches, broken off shell necks, bullet jackets, etc.,



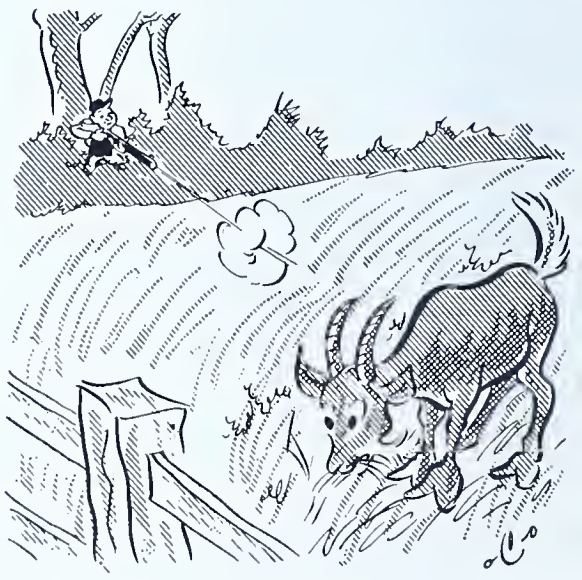
Never lean your gun against a tree where it is likely to slip or get knocked down.

out of the barrel. Open your gun and look through your rifle from muzzle to breech, if possible, or check the muzzle to see if falling snow or hoarfrost has been shaken from brush or trees in passing and has collected, caked and frozen in the muzzle. You may sometimes have to remove it every fifteen or thirty minutes if hunting in thick brush. Remember also that to shoot a rifle or shotgun with an obstruction in the muzzle may result in a ringed barrel, a bulged muzzle, or a burst gun, any of which will destroy all semblances of accuracy, or in the latter case perhaps injure your hand, your arm or mutilate your face.

When hunting with a carbine or other short-barrel rifle be very careful the trigger does not catch on a button of your hunting coat and discharge the rifle; that is, if you carry it in a position where it is likely to catch on a button. I remember a case where a hunter climbed a fence to enter the deer woods; he had taken but two or three steps into the woods when his .30-30 carbine was discharged because the trigger caught on the lower button of his hunting coat. The bullet struck him on top of the right foot and he was able to do very little walking for two or three years. Keep your trigger away from coat buttons. A large proportion of hunters shoot themselves—in fact a favorite target more often than not—is a foot. The gun muzzle nonchalantly rests on the toe of the shoe, and some twig motion, or a coat sleeve does the rest.

Never lean a loaded rifle or shotgun against a tree which has smooth, slippery bark. This causes more guns to fall than anything else. It will not start to slide immediately; the butt is usually set on leaves which move as one moves his feet while standing or resting nearby. As soon as your back is turned "Wham"! down it goes, and many times its fires. I recall a case where a hunter leaned his shotgun against a tree then sat on a log a few feet away. A gust of wind loosened it, and it fell to the ground discharging one barrel. That one missed him but the recoil discharged the other barrel and the shot caught him in the leg. Almost always if the ground is rough and rocky a telescope, peep, or other sight that is exposed is knocked loose or out of line. The best bet is not to lean your gun against any tree, smooth or rough, wet or dry. If you must lean it against something, lay it down on as dry a support as possible where it can't slip or slide.

Never try to shoot high-power cartridges of a different caliber in your rifle—for instance .30-30's in a .32 special or .30-30's in a .303 Savage. Use a powerful hard-hitting cartridge which will stop the game you hit. Light guns fill the woods with fusilades of ineffectual bullets, increasing the danger to other hunters many times. With a heavy gun one hit does it and when you shoot you know you've done something. Black powder rifles are more dangerous than the more modern speedier rifles for a variety of reasons. The lead slugs go through more brush without breaking up into dust; the trajectories follow up hill and curve down over the other side, traveling for longer distances at about the height of a man in hilly regions.



There is no excuse for shooting a goat for a white-tail.

Gun in the Field

By The Editor

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Don't file or cut off the points of full jacketed army cartridges to make expanding ammunition. The bullet cores shoot out, leaving the jackets in the barrel. Once in awhile the neck of a shell breaks off and stays in the gun chamber. If you get a broken head piece out, fish for the rest until you get it, or go home and let someone else get it out before you shoot again.

Never pick up or touch a gun without doing it gently, and then the first thing find out whether or not it is loaded. *Never carry a loaded gun in an automobile*, and if you value your life keep away from drunks with guns. They should be reported to the nearest Game Protector. In Pennsylvania you are not permitted to carry loaded guns in or on automobiles or other vehicles, and Game Protectors are required to seize your hunting license if you are caught hunting while under the influence of liquor or narcotics.

Keep your eye on the greenhorn every minute. Don't allow him to pick up or finger your gun. Don't wait until you get into the field to target your gun in. Do this in some safe place before you start hunting. If you must wait until you get into the field don't shoot into live trees; always sight your gun in on a *protected* target.

Be careful how, when and where you load and unload your gun. Never unload or load it in a group, while another hunter is in front of you, or while you are inside a building. Every hunter should make a practice of taking the cartridges out of his gun when coming into a home or a camp, and reexamine it to make certain they are all removed.

Killing time by aiming at any living object like a doe deer in buck season, or a cow or a horse across on an opposite hillside, is extremely foolish. Remember the trigger pulls LIGHTEN with colder weather and that many persons have lapses of memory when keyed up. You might find yourself firing a shot that you never intended to fire. The fellow who sits and plays with the trigger when his companions are sitting in a circle or a group resting or eating is a fit candidate for a mental institution. It's surprising how many times a live cartridge will be found in the rifle chamber of the offender.

When more than one hunter is walking along a path in single file none but the leading hunter should have a cartridge in the chamber, or the muzzle of the rifle pointed forward. I have shivered in my shoes every time I've gone up or down a mountain with a group of other hunters in single file. Some gun somewhere is usually pointed at the middle of your back or at the top of your head.

When you stand a gun in a corner or in a rack, or lay it down, make sure the butt will not possibly slip outwards, allowing the gun to fall. A great many accidents result from this cause.



Do not step on slippery, moss-covered stones when crossing a stream.



I have shivered in my shoes every time I've gone up a mountain with a group of other hunters in single file.

Go into the woods at other times than during the hunting season, practice with your gun when it's empty; practice releasing the safety as you put your gun to your shoulder; grow familiar with the appearance of game, its color, form, movement; learn how a man looks at a distance. A great many accidental shootings occur while hunting groundhogs.

High-powered rifles apparently are not as dangerous in the woods as shotguns or low-powered rifles. By the very nature of things rifle shooters have to make sure of what they want to hit. About 85% of all shooting accidents occur through the use of shotguns. The snap type of shooting, the carefree holiday spirit that I mentioned before, is largely responsible. Give the shotgun type of person a rifle and he'll shoot you with it.

The general type of mind is out nervously for blood and he might as well have his eyes closed for all he sees what he shoots at in time to judge the safety factor. I once knew a man who clamped a load of shot in the rear of his old bird dog. He decided then and there that he wasn't a fit person to handle a gun and never did afterwards.



Never carry a deer out of the woods over your shoulders. Drag it out.

Safety in the field depends not only upon how you handle your gun but upon how you handle yourself. Be extremely careful when walking up or coming down a slope on a trail or path where previous footsteps are partly iced over. You are headed for a sure fall. It is far better to walk in the deeper snow, which gives more secure footing.

Do not walk out on smooth ice on a lake, or a stream, or a dam with a loaded rifle. Many fine ice skaters are almost helpless on ice when standing on shoe leather; you are almost certain to strike the back of your skull or turn a cartwheel and fall on your rifle. Be extremely careful of possible ricochets from frozen knots, frozen ground, especially a plowed field which is frozen over. These ricochets will always be in the direction of the rifling.

Be careful about shooting over the top of a low hill, or at a crow or a hawk in a tree at such distance that the bullet travels at 20 to 30 degrees above the horizontal. A bullet from almost any high-powered rifle when fired at such an angle will whiz along for two to three miles and may strike another hunter or someone in an automobile traveling on a public highway.

Do not shoot at a noise or movement in the brush; it may be another hunter or it may be illegal game for which you will have to pay. Never forget huckleberry pickers in the woodchuck hunting season.

Don't shoot too near buildings or too close to workers in the fields or woods. Remember that a calf looks a lot like a deer, and there is no excuse for shooting a goat in mistake for a white-tail.

Look once, twice, three times; then if you are not absolutely certain what it is, don't fire. We can all be fooled.

Don't step on a moss covered or slippery log with a cocked and loaded rifle or shotgun in your hand. Bad falls are often caused by wearing smooth-soled shoes in walking across hilly fields on the way to the woods. When the fields are covered with dry short stubble they make the shoe soles extremely slippery and you fall on the first steep slope either going up or coming down.

(Continued on page 25)



Figure 4.—Two adult gobblers strutting in the foreground and two yearling gobblers strutting in the background. Note the difference in the outer periphery of the tail between the two age classes. Photo taken at the Pennsylvania State wild turkey farm.

Sex and Age Determination of Wild Turkeys

IN the fall of 1941 a research project on the life history and management of the wild turkey *(Meleagris gallopavo silvestris)* was inaugurated. The field work was conducted by the junior author who had the cooperation of the Pennsylvania Game Commission field men. The work was supervised by Dr. Logan J. Bennett, Biologist, U. S. Fish and Wildlife Service; and Dr. P. F. English, Associate Professor of Wildlife Management, Department of Zoology and Entomology, The Pennsylvania State College.

During the study it was necessary to identify either the sex or the age of wild turkeys on numerous occasions. It was necessary to know the sex and age of wild turkeys in determining the sex ratio, composition of a flock, or life history facts. It was noted that many sportsmen, especially the novice hunters, were unable to determine the sex or age of a wild turkey. As a result, this paper was written to enable the average sportsman to recognize the sex and age of these wild birds.

The sex of a wild turkey may be established by various methods. Many sportsmen decide whether their turkey is a gobbler or a hen by the presence or absence of a beard. This is not always a good method by which to judge the sex of a bird. Usually a gobbler over 12 to 16 weeks of age shows evidence of a beard, even though it may be hidden by feathers. As a rule, young hens do not have a beard. Nevertheless, in the spring of 1942, while examining yearling hens for liberation, five out of 75 yearling hens (9 to 10 months old) were found to have beards. This beard, however, was hidden beneath the feathers. The presence of an external beard on a hen usually indicated that the bird was two or more years of age. The form of the beard on males and females is different. Males have rather thick, coarse beards, whereas those of the female are thin and fine. All hens two or more years of age do not necessarily have beards. Some turkeys have multiple beards.

The general body-size serves as a good method of judging the sex of a bird in the fall and winter. From field observations and contact with sportsmen by the two writers and the experience of the senior author at the state wild turkey farm, the following weights are useful during the fall in identifying the sex of turkeys. A large hen, as a rule, does not weigh over 10 to 12 pounds. Old gobblers do not often weigh much over 20 pounds. Three gobblers shot during the fall of 1941 were examined by Kozicky. Two of the birds weighed 14 pounds and one weighed 12 pounds. It may be stated that most birds in the fall weighing less than 10 pounds are probably hens. Turkeys weighing from 10 to 15 pounds are probably old hens or young gobblers, and those weighing over 15 pounds are usually old gobblers. All weights are considered as live weights. There are, however, exceptions to these figures. Mosby and Handley (1943) weighed 84 native wild turkeys killed in Virginia during the fall hunting season. Thirty-six of the turkeys were hens and averaged 8.32 pounds, with a range of 4.25 to 11.00 pounds. Forty-eight gobblers averaged 13.36 pounds in weight and ranged from 7.25 to 19.50 pounds.



Figure 2.—Contour breast feathers of male and female wild turkeys. Note the difference in the coloring of the tips of the contour feathers. The female has a buff-tipped and the male a black-tipped. (Photo by P. F. English).

The general appearance of a live bird is another means of determining the sex of a bird. The gobbler is usually heavier framed and larger in appearance. The tarsus or shank of the hen is thinner than the tarsus of the gobbler (Figure 1). In the spring of the year during the mating season (March, April and May) the gobbler's head is red to bluish-white in appearance and is in sharp contrast to the dull gray appearance of the hen's head. The gobblers also have more caruncles (small wart-like bumps) around the head and neck, larger head, taller appearance, and less feathering in the vicinity of the head. Old gobblers have well-developed spurs. Spurs may be present on a hen, but like the beard on a hen, are not as prominent.

The color of the tip of the breast contour feathers is used in sex determination. Marsden and Martin (1939) found that in the wild turkeys these feathers are buff-tipped on the hen and black-tipped on the gobbler (Figure 2). Mosby (1941) found the same to be true for wild turkeys in Virginia. This is useful after the birds are 12 to 16 weeks of age.

Another useful sex differentiation characteristic is the color of the upper tail-coverts. On the hen from a distance these feathers are light tan in appearance and chocolate-

[1] A contribution from The Pennsylvania Cooperative Wildlife Research Unit. Fish and Wildlife Service (U. S. Department of The Interior), The Pennsylvania State College, the Pennsylvania Game Commission, and the American Wildlife Institute cooperating.

[2] Superintendent of the wild turkey farm, Pennsylvania Game Commission and Graduate Assistant, Department of Forestry, The Pennsylvania State College respectively.

By Leon P. Keiser
and
Edward L. Kozicky

brown color on the gobbler. This is especially noticeable during the mating season in the spring of the year.

Another method devised to sex turkeys indirectly in the field was by measuring the length of the middle (third) toe. This can be done in the snow, sand, or mud (Figure 3). In order to determine the length of the middle toe of yearling gobblers, hens, and older birds, measurements were taken during the spring of 1942 and 1943 at the state wild turkey farm. The measurements were taken on the middle (third) toe. The toe was measured from the web between the second and third toes to the tip of the toenail. The results were as follows: 58 yearling hens (9 to 10 months of age) had an average middle toe of 61.9 mm. (2.47 in.), a minimum length of 58 mm. (2.32 in.), and a maximum length of 68 mm. (2.72 in.). The length of the middle toe on 20 hens two years of age and older was as follows: The average length was 69.6 mm. (2.78 in.), the minimum length was 66 mm. (2.64 in.), and the maximum length was 75 mm. (3.0 in.). The middle toe measurements of 30 yearling gobblers (9 to 10 months of age) showed that the average length was 78.6 mm. (3.14 in.), the maximum length was 85 mm. (3.4 in.), and the minimum length was 74 mm. (2.9 in.).

From these measurements certain useful deductions may be made. Some of these measurements, however, are only useful during the spring from about February to June. If the middle toe of a bird at any time during the year measures over 3.25 inches, it may be considered to be a gobbler. During the spring of the year a bird with a middle toe measuring less than 2.5 inches is a yearling hen and between 2.75 inches and 3.25 inches an old hen or a yearing gobbler. None of the middle toes of the old hens measured more than 3.0 inches. However, if a larger number of old hens had been measured, some of them might have had middle toes over 3.0 in length. The figures show that a turkey obtains the greater part of its body size during the first year.

Another method used in determining the sex of a bird is the spread of the track. Many Game Commission field employees use this rather than the length of the toes. A hen has a narrower track than a gobbler. Field experience is necessary in utilizing this method.

Age determination has usually been a speculation on the part of the sportsman. Most hunters utilize the length of the beard as a criterion of the age of the turkey. Mosby and Handley (1943) found that (1) if a wild turkey hen had a beard and it was 2 inches or longer the hen was two or more years of age, (2) yearling gobblers rarely had beards over 4.5 to 5 inches in length, and (3) gobblers that were over 20 months of age may have beards from 6 to 12.5, or more, inches in length. Mosby and Handley, however, stated that the beard was not always a sound method of indicating age, as the beard may be worn, bent or deformed.



Figure 3.—Tracks of two wild turkey hens.

Bent (1932) stated that there is a complete moult of the young turkey in September except the primary feathers. The two outer primaries of each wing are retained for a year. Petrides (1942) further studied these feathers and found that they were different in shape in the young bird less than 14 to 15 months of age than in the older birds. The distal remiges (outer two primaries) of the adult are broadly rounded and marked with white almost to the extreme tip. In young turkeys they are sharply pointed and tipped with plain gray.

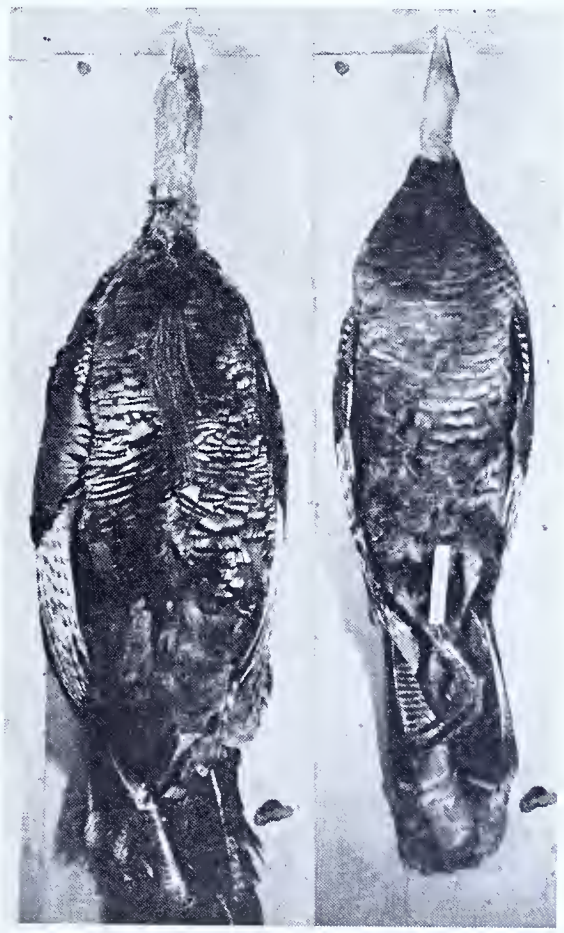


Figure 1.—An adult male on the left and an adult female on the right. Note the difference in the size of the two birds and the appearance of the tips of the contour feathers on the breast. (Photo by P. F. English).

The senior author developed another useful method of age determination at the state wild turkey farm. The yearling birds are separated from the adults by the shape of the tail. In young turkeys up to 13 to 15 months old, the age of first postnuptial moult, there is a definite extension of the inner portion of the tail (Figure 4). This occurs on both hens and gobblers and is best observed when the tail is spread in a fan-like manner. This irregular appearance of the outer periphery of the tail has been checked for seven years on more than 2,000 birds by the senior author. In the gobbling and strutting season in the wild, it is easy to determine by this method whether the strutting gobbler is a yearling or an adult. This method can be used after the birds are 12 to 16 weeks of age; therefore, the hunter can determine whether the turkey is a yearling or an adult. The uneven outer periphery of the tail is probably connected with the moult.

The body size may be used in the spring for age differentiation. In a flock of turkeys the younger hens may usually be easily separated from the older birds by the difference in size. The same is true about the gobblers.

It is also possible to sex day-old chicks by the genital papillae. This method was reported by Hammond and Marsden (1937). However, experience is needed in accurate checking by this method.

Mosby (1941) also showed that the presence of the bursa of Fabricius (a small outgrowth on the dorsal wall of the intestine near the vent) indicated the bird was under eight months of age. This method necessitates the killing of the bird and some knowledge of anatomy. Gower (1939) describes this method in detail.

Summary

The sex of a turkey can be determined from a day-old poult to an adult bird. The methods are as follows: (1) Presence of a thick, heavy beard on a bird over 12 to

(Continued on page 26)



Eating a lily root.

THE MUSKRAT

By Paul L. Failor

THE muskrat ranks first among all North American fur-bearers, both in number and total value of pelts. It is estimated that this animal alone gives the trapper about $30,000,000 annually.

There are but three species of muskrats, all very closely related: the Common Eastern muskrat, which shows considerable variations and has been broken into 13 subspecies—the Newfoundland muskrat, and the Louisiana muskrat. The nearest living relatives are the meadow mice and the lemmings, both of other genera. From 1766 to 1840 the generic name was changed eight times. The muskrat of the Eastern Shore is the Virginia muskrat, which is differentiated from the other 12 subspecies by being the largest and the darkest, and by the absence of the ridge between the eyes.

Muskrats inhabit the greater part of North America from the northern limits of trees south to about the Mexican border. They are absent from the coastal parts of South Carolina, Georgia, Alabama, and Texas, and from Florida and nearly all of California. They do not occur in parts of the interior plateau that have no streams or lakes. Throughout their extreme range, except in Newfoundland and southern Louisiana, they are considered as one species—the Eastern muskrat.

The Virginia muskrat having two color phases, the black and the brown, is a heavy set, short necked rodent about 23.5 inches in length, 10 of which is tail. The eyes and ears are rather small. The mouth is adapted to securing food under water. The lips are so formed that they can be closed between the incisors and the molars, thus allowing use of the incisors while the mouth is shut. This enables the animal to gnaw while under the surface, and to carry food and building material in the mouth while swimming.

The legs are short and powerful. The hind feet are partly webbed and are fringed with stiff hairs which aid the animal in swimming. The front feet, used in the handling of food, are small and not especially adapted for swimming. The long tail is flattened, covered with scales and very short hair. Glands which secrete musk, particularly during the breeding season, are located posteriorly on the muskrat. The average weight appears to be about 2¼ pounds, but 3 pounds is not uncommon and on two occasions the writer has seen muskrats weighing 3½ pounds.

A study of the color phases was begun in 1931. Black, brown, and black and brown pairs of muskrats were placed in breeding pens and the color of the offspring was noted. Results show that black parents produce only black young but black and brown parents produce either, brown being more common, and that both brown parents seldom produce black young.

Like nearly all rodents, the muskrat is chiefly herbivirous, but it sometimes eats animal food, a habit which it shares with many other gnawing animals. Its chief winter food consists of the roots of many aquatic plants—pond lily, arums, cattails, and sedges. In some localities it feeds on mussels, blue crab and such sluggish fish as carp and suckers. Very seldom do muskrats ever leave the water and burrow under the snow in search of grasses and sedges.

The summer menu is far more extensive. They will eat almost any plant found on the marshes or along the streams. Field crops such as corn, wheat, buckwheat and clover often furnish excellent food. Garden vegetables of all kinds are also readily eaten, but of all foods three-square sedge and cattails are the most important. Although many animals store food for the winter, the muskrat does not.

Eastern muskrats appear to be loosely monogamous and they may breed every month of the year with the exception of November and December. However, most of the young are born from mid-April to mid-September. As many as five litters in one season have been recorded but three, with an average of about four young per litter, seems to be more common. There has been considerable difference of opinion as to the gestation period but it appears to be about 29 or 30 days. The young, born blind, are covered with fur so short and fine that it is scarcely visible. The feet and tail are bright pink. The eyes open 11 to 15 days after birth. The kits may nurse as long as 21 days but after the second week they start to nibble solid foods. Immature muskrats are noisy animals and when disturbed they will utter complaining squeals. The mother shows great concern when they call and runs to them at once, often attempting to carry them away in her month if she feels that they are in danger.

When the young are thirty days old the mother drives them from the nest. Sometimes this happens a day before the next litter is born, but on several occasions, it was observed, this did not happen until after the new litter had arrived. When a youngster refuses to leave the nest it is often bitten so severely by the parents that it may die. When the young leave the nest they live by themselves but take their quarters as close to their parents as possible, seldom going more than sixty yards away. At the age of four months they are almost fully grown. The belief of some trappers that young muskrats will reproduce the same year is not true since a muskrat is not sexually mature until it is nine months old.

The muskrat will not tolerate too high a population. Six or eight pairs of breeders along a mile of stream (one side) is about the highest Spring population that can exist, and this amount requires an abundance of food. Open pastures will not support this many breeders. Eight to ten pairs is about the maximum Spring population per acre in the marshes where conditions are ideal.

Each year more males are caught than females. It is also the belief of many trappers that after muskrats mate the males go into hiding and the females wander about a great deal more than at any other time of the year. When trappers on the big marshes catch a great many females they lift their traps, knowing that the breeding season has begun. Up until this time they catch many more males than females. Pen raised muskrats show that males and females are born in almost equal numbers.

Muskrats homes are of two general types. Along upland streams and creeks they burrow into the bank with the entrance below the normal water level and in swamps and

(Continued on page 32)

NOTE: *Written while a student at the Game Commission Training School.*

Fur Trapping Methods

By S. V. Sedlak

THIS is the time of year when the fur harvest commences to shape up and the trappers who looked ahead and prepared will be ready to match their wits against these fur-bearing animals that have come into season. The largest part of the fur catch will be taken during the next few weeks while the favorable Fall weather prevails and while the zest for this fascinating game endures. Later on the stinging cold will descend upon us, the problems of trapping will become more difficult, and the ardor of the trapper will cool off proportionately.

Trapping is a game that involves many diverse problems, and what may apply to one local area may not be exactly suitable to another: Then, too, the ever-changing weather conditions add materially to the complexity of the sport.

By chance on one day during the past Summer I stopped at a camp in the mountains for just a few minutes while on an essential trip. The owner of the place, an acquaintance, was in and even before the ordinary greetings of the day had been exchanged he asked if he could spend a week in the woods with me this Fall. I told him that he would have to wait until after the war. He was interested mostly in fox trapping. I pointed out that he could get enough information to get a fair start at the game by reading the methods outlined in the GAME NEWS.

The various methods given in this discussion on the subject are impartial opinions but should give the reader a pretty fair understanding of the basic principles. It is said that experience is the best teacher anyhow, and there is nothing like trying to become convinced. With some leisure time, a few traps, and a determination to work, success is certain to come to anyone.

Success in trapping is not always measured by the number of animals one catches in the course of a season, nor is it determined singly by the amount of money that one makes from his efforts. There are higher ideals and standards to be taken into account. There is, for example, that close contact with nature and her wild things with their captivating impressiveness and the pleasant, healthful reaction that this has on the human body; the element of surprise in catching a cunning animal, and the satisfaction that comes with triumph.



Photo by E. J. Dailey
On lakes and dams the muskrat trappers use boats to get around in while the water is open.



Photo by the Author
Skinning, fleshing, stretching and drying are important matters in pelt preparation. All the fats are to be saved for the Government.

Following the game honestly is the highest and most creditable test in trapping. The trapper who conducts himself in the proper way will act in accordance with the law, he will show respect for the rights of property owners, he will not disturb the traps and the trapped animals of another, and he will be most careful to avoid setting traps in places where small game animals or dogs are likely to be caught.

In these war-time days there is a still more significant part that the trapper plays—that is the collecting of animal fats for making explosives. Every patriotic sportsman should make it his duty to cooperate to the fullest in the salvaging of all fats, and the time to start collecting them is now. Clean pails or tins should be used as receptacles and as soon as a can or two is filled it should be taken to the nearest rendering plant, fur buyer, meat market or other approved fat collecting agency. Sportsmen, raccoon hunters, farmers and trappers—all should rally to the Government's call!

For the trapper the fur taking season gets under way officially on November 10. Red or gray foxes, weasels, wildcats, skunks, opossums, minks and raccoons will be legal quarry. Muskrats prime up later and may not be taken lawfully before the first day of December. Beavers prime up still later in the season. Pennsylvania trappers should be grateful for the fact that they have always been treated with due consideration by the Game Commission. The fur laws and trapping seasons have always been very fair and have been improved upon. That is a distinction that only a few States possess at this time.

Disposal of Raw Furs

When the furs have dried sufficiently they should be disposed of as soon as convenient to do so. Raw furs should never be held for any long period of time because there is always the possibility that they may spoil. There is always a ready market for good quality, properly handled pelts. The question of where to sell is of paramount importance, however. If a trapper is not familiar with the various raw fur grades his best bet would be to sell to the nearest licensed fur buyer if the buyer is dependable and possesses a good reputation. There are several hundred local buyers in Pennsylvania and it is usually to the trapper's advantage to sell to one of them. Raw furs are graded according to size, primeness, color and shape. It takes a little while to learn to know all of this and then be able to judge the correct value of a skin.

If the raw furs are shipped out of Pennsylvania to be made up into a garment, or are sold out of Pennsylvania, each shipment must have a Game Commission shipping tag attached. These tags are obtained from the Commission or any one of its regular salaried officers at a cost of twenty-five cents each.

Shipping out of the State involves risks. Any experienced trapper can vouch for that. For instance, let us say that you have a raw fur that's worth five dollars and you send it to a market in New York or St. Louis, and receive a check for one dollar. What could you do about it? Practically nothing, as a matter of fact. The District Attorney of your county would have no jurisdiction over your case because it would be an out-of-state proposition. The Post Office Department Inspector could be called upon for an investigation but if you would beat the crook who had beaten you, you would have to prove that the crook is continuing the use of the mails to defraud. This does not imply that all fur buying companies of other States are unfair. Most of them are on the level;

(Continued on page 27)



Photo by S. Hawbaker
Very nicely handled skunk pelts taken in Southern Penna.



Boy Scouts planting walnuts.

John M. Phillips, of Pittsburgh, former president of the Pennsylvania Game Commission, is recognized internationally as an outstanding authority on conservation of natural resources. Mr. Phillips is a big game hunter, author, explorer, naturalist, and is a member of the National Advisory Council of the Boy Scouts of America, and a Life Member of The Outdoor Writers Association of America.

Planting Trees for Posterity and Wildlife

WHEN Columbus discovered America, the white race fell heir to the finest country in the world, a rich land covered with many magnificent forests, a land teeming with wildlife, the Paradise of the Indian.

In the work of policing, protecting, and preserving these forests which stood here for countless ages, birds and beasts served each in his sphere, performing a useful work for which the Great Spirit created him.

In searching for grubs, ants and other insects, bears, the white-wings of the forest, tore to pieces rotten logs and uprooted the tree stumps to make room for new trees, scattering the fragments on the forest floor, where they disintegrated quickly and became fertilizer. The buffalo, elk, deer, rabbits, and other grazing and browsing animals destroyed weeds and pruned the trees, throwing the growth to the tops, making timber. Grouse, turkeys, and other birds destroyed ground insects. The woodpecker family policed the trunks and large branches of the trees while the warblers and other species of small birds cleansed and protected the small limbs and foliage. The squirrels planted nuts and the birds distributed seeds. The industrious beavers built dams which conserved the water and conserved silt thus creating fertile meadows. The predators prevented undue increase in wildlife by destroying the weak and sick while the scavengers removed the dead and prevented infection and disease.

* * *

To the birds and mammals we owe our forests and many fertile meadows.

The White man, by use of the ax, fire, plow, sawmill, and gun together with the drainage and pollution of our waters, the importation of noxious fish, birds, insects, and blights and the commercialization of forests and wildlife has almost destroyed the Indian Paradise.

Today, our conservationists, bewailing the destruction of flora and fauna, are making strenuous efforts to replace both our forests and wildlife.

The first trees to be cut to clear farms and later to be commercialized were the black walnut, butternut, hickory, oak and chestnut, all bearing mast. The wild mulberry, wild cherry, gum, persimmon, and many other valuable fruit trees followed and, as a result, today there is very little natural food for wildlife in fields and remaining forests.

First settlers used walnut, our finest and most valuable North American hard wood, for buildings, fence rails, house furniture, and other common objects because it is easily split and worked. Ever since guns were made in America, they have been stocked with seasoned walnut which does not shrink or warp and is not likely to splinter under the impact of a bullet. Thus during our many wars, millions of the finest trees have been sacrificed for this purpose.

Prior to World War I, Germany purchased much of this country's best walnut, presumably for furniture and veneer but actually for gun stocks and airplane propeller blades. When we entered that war, we used the cream of the remaining walnut for the same purpose so that these utilitarian trees, known as North American mahogany and now more valuable than mahogany, are almost extinct in many sections.

* * *

Our hickory trees have been used for ax and pick handles, wagon wheels, and innumerable general purposes where a strong, tough wood is required; as a result, few of these trees are left. The blight which destroyed our chestnut trees was a national calamity, not only in the loss of valuable wood but in the loss of vital food for bear, deer, squirrels, grouse, and turkeys which depended upon the Fall nuts to fatten and strengthen them to endure our severe winters.

Our Forestry Departments and sportsmen are planting almost exclusively pines, hemlock, spruces, and other coniferous soft woods for future lumber but have neglected the more valuable hardwoods, black walnut, butternuts, hickories and oaks. The reason for this is that soft-wood trees can be grown from seeds almost as easily as grain and the seedlings cheaply handled. Although good cover, coniferous trees furnish little food for wildlife and are a fire hazard; their needles form a carpet on the forest floor killing all ground vegetation and harboring wood rats and mice which live on the small seeds which sift through the needles. These rodents scatter to the surrounding country and their destruction of crops and trees is often blamed upon the rabbit.

It was in 1905 as a member of the Pennsylvania Game Commission that, knowing of the scarcity of natural food for wildlife in our state, the writer initiated a program of mast and fruit tree planting.

For a number of years prior to this, I had tried vainly to interest the Forestry Departments, the Audubon Society, and the

By John M. Phillips

sportsmen in this project. Failing to arouse the older generation to replanting the State's forest for the benefit of wildlife, I turned to the school children. Later in 1910, after assisting in organizing the Boy Scouts of America, I turned to the Scouts, hoping to build for the future by fostering in them an interest in forestry and the protection and propagation of wildlife. As an incentive, I distributed to the school children and Scouts many thousands of Russian mulberry * and sweet cherry trees, with the understanding that one-half of the fruit produced was to be dedicated to the birds.

Meantime beginning 1905, I also enlisted in the planting program our more than 100 Pennsylvania game protectors. These men planted throughout the State hundreds of thousands of fruit, nut, and other mast-bearing trees, as well as shrubs and vines. To the man who planted the most, I awarded yearly a 28-gauge double-barrelled shotgun.

* * *

During World War I, Boy Scouts were asked by the Federal Government to find and record on maps the location of all walnut trees suitable for gun stocks and airplane blades. To replace trees destroyed for this purpose, Scouts in Allegheny County immediately started the planting of walnuts.

There are now about 10,000 Boy Scouts in Allegheny County. For a number of years the writer has offered a silver cup to the Troop planting the most nuts in the county. The prize-winning troops have each planted yearly from 16,000 to 24,000 nuts of different species.

The National Council of the Boy Scouts of America has set aside one week, beginning October 27, the birthday of the late Theodore Roosevelt, great conservationist and Boy Scout leader, to be known as "Boy Scout Nut Planting Week." During this week, over 1,000,000 Scouts throughout the United States are asked to gather and plant all varieties of nuts. Throughout Pennsylvania, the Scouts now cooperate with the Game Commission in its plantings.

Scouts enjoy nut and fruit tree planting hikes. They enthusiastically plant trees from which in six to eight years they will share fruit and nuts with wildlife; however, they are less interested in planting coniferous trees which when matured in 50 to 100 years will be cut for lumber.

The Boy Scouts have been congratulated by Federal officials and many national conservation associations for their valuable work in planting nut and fruit bearing trees, shrubs, and vines to produce natural food for wildlife. The young and energetic members of the 4-H Clubs throughout the nation are also doing fine work in this field. The latest recruits in the work are the 75,000 forward-looking women who make up the Pennsylvania Federation of Women's Clubs. They are specializing in planting dogwood, not only for the flowers but also for the berries which feed birds and mammals.

* * *

Although our sportsmen who are benefited most from these activities have been doing commendable work in the preservation of our wild waterfowl, in assisting with the purification of streams, feeding game during the winter, and other conservation measures, the majority of them have overlooked the natural feeding of our upland game which winters with us.

In fact, I have often seen a hunter kill a squirrel in the act of burying a nut. He would pick up the nut planter's carcass and start off in search of another nut tree, leaving the squirrel's nut, which would have meant another tree, unplanted beside the hole the animal had prepared.

Nut planting, however, is a simple matter for the sportsmen hunting in the Fall when ripe nuts drop from the trees. The only tool he needs in planting is a small garden trowel or a sharpened stick to make a hole three inches deep. If he lacks these, he can use his boot heel to drive the nuts into soft ground. Since nut trees have tap roots, they should be planted in good, deep soil, 50 to 60 feet apart for they as well as fruit trees require space and sunshine to mature and produce. They should be planted where they will not interfere with farming, preferably in fields, along fences, country roads, and at least 50 feet from the edges of woods where squirrels will not be so likely to dig them up.

* * *

Walnuts have a green outer hull which I believe contains fertilizing elements. I have had greatest success by leaving this hull on the nut but crushing it with the heel when planting. However, the most satisfactory method of insuring growth of walnut, butternut and hickory trees and having the tree located where desired is to gather selected ripe nuts as soon as they have fallen then hull and plant them stratified in boxes.

These boxes (see Figure A) in which small holes have been bored in the bottoms should be sunk flush with the ground and exposed to the weather. Place 2 inches of moist sand or sandy loam on the bottom of the box then place the nuts one inch apart on top; add another 2 inches and a second layer of nuts and cover with 2 inches of sand or sandy loam. A third layer may be added and topped with approximately 2 inches of garden soil. If squirrels are likely to disturb, a wire mesh may be placed over the box. Plant where desired early in the Spring when the frost goes out of the ground; cultivate and, for the best results, fertilize if possible. Squirrels and other rodents are not likely to destroy these sprouting nuts. If our sportsmen in the fall each placed only 10 nuts in a cigar or other box, exposed them to the weather, planted them themselves or gave them to their farmer friends in the spring, in a few years instead of migrating our squirrels would stay with us, and the nuts would protect the farmer's corn and other grains and give them no excuse for shooting them. In my first experiment of planting, I used a cigar box with good results. A sportsman friend, a banker, instead of planting himself utilizes the services of the squirrels, the original nut planters. He purchases bushels of nuts, piles them in the woods and the squirrels bury them for winter food. Many of the squirrels are killed during our hunting season with the result that quantities of the nuts grow into trees.

In planting a commercial nut orchard, it is desirable to purchase choice grafted nut trees from a nursery.

* * *

During the late depression, many of our unemployed gathered and sold nuts. The kernels have many uses, particularly as a delicious, valuable and wholesome food.

It has already been suggested that the nation observe meatless days during the war. This will mean no loss in food value for those to whom nuts are available, since nut kernels contain 3,200 calories per pound compared with only 800 calories per pound of average meat. They are also rich in vitamins, and fats. The food value of nuts is four times that of meat and more wholesome.

The Indian understood the food value of nuts. With a pouch filled with nut kernels and parched corn, he could travel incredibly long distances, subsisting solely on this food. If he had added dried fruits, for instance raisins, he would have had a balanced diet. Many hunters and explorers use this mixture for a perfect iron ration. I too, have found this a perfect ration.

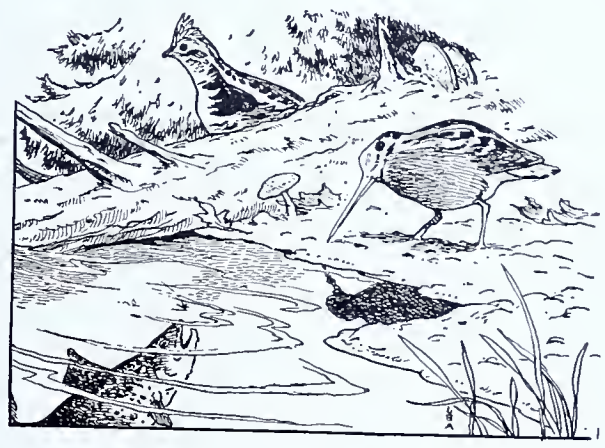
A farmer in Iowa recently paid off a large mortgage on his farm by selling the black walnut trees on his woodlot, realizing from $25 to $235 a tree. Some years ago, a curly black walnut tree from Kentucky sold for $3,500! At one time a movement was on foot to name the black walnut our national tree because of its beauty and utility. Fifty years ago, walnuts sold in almost every grocery store for 50 cents a bushel. Today, they are worth $5 a bushel while hickory nuts are almost a thing of the past. Today, walnut lumber is five times and hickory three times as valuable as soft woods and will mature just as quickly.

* * *

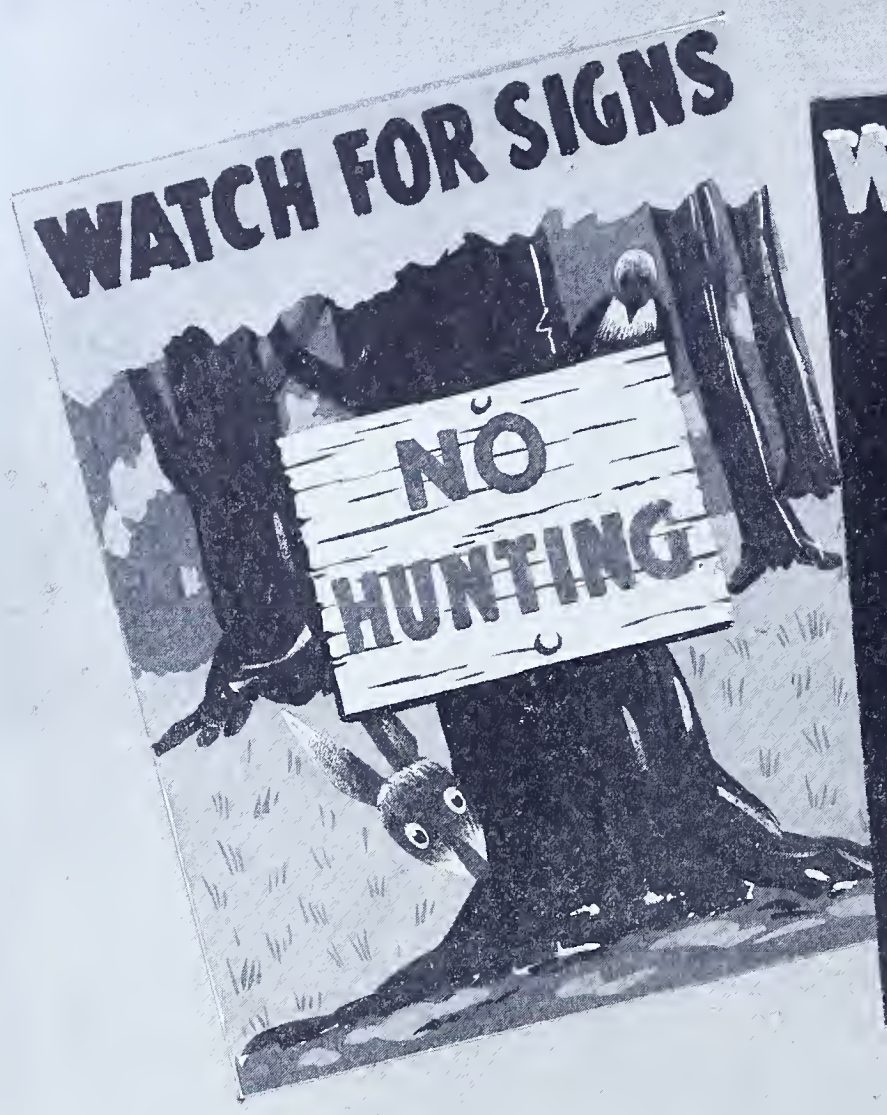
It may be years before we can get mahogany from the Philippines and South America. In the meantime, because of the scarcity of walnut, furniture makers are paying exorbitant prices for it and by the time our government stocks the millions of Garand rifles needed for ourselves and our Allies, black walnut trees in America will be practically extinct—unless we plant now.

Many of us insure our lives for the benefit of our children. Why not plant an orchard of nut trees for their benefit? The value of these trees, both aesthetic and commercial, is unchallengeable and in augmenting your

(Continued on page 31)



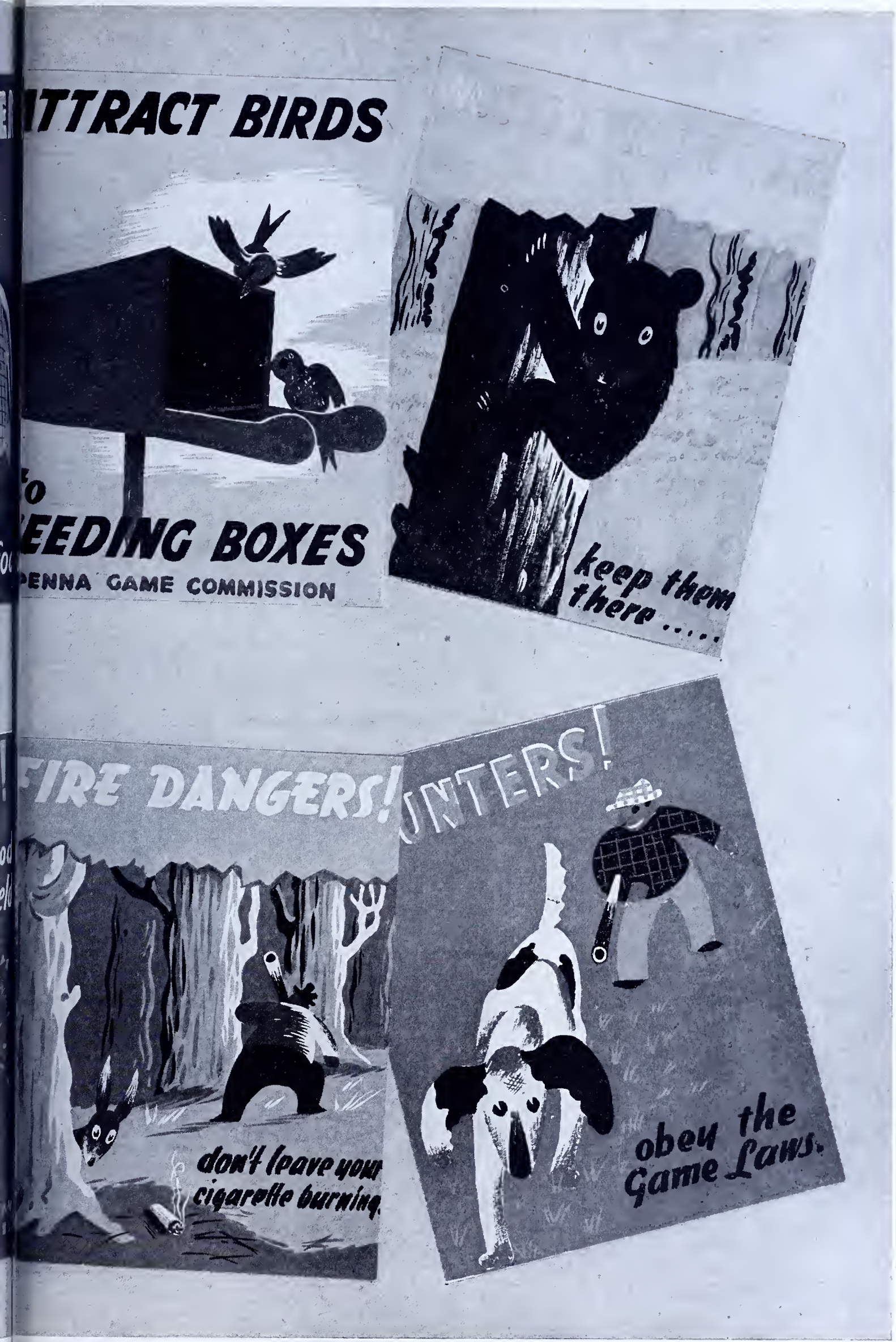
A land teeming with wildlife—


WATCH FOR SIGNS
NO
HUNTING


WINTER PROBLEM
provide winter foo


HUNTERS-
BE CAREFUL!
don't shoot
unless the line of fire is clear


PROTECTION!
leave cover and food
at the edge of your field
PENNA GAM
COMMISS


ITTRACT BIRDS
O
EEDING BOXES
ENNA GAME COMMISSION
keep them there .....
FIRE DANGERS!
don't leave your cigarette burning
UNTERS!
obey the Game Laws.



And of all these things no white man knew.

Wildlife Conservation Its Past Its Present and Its Future

First of a series of articles on our natural resources and how we must plan to use them wisely now and in the future.

Photos courtesy "Ding" Darling, the National Wildlife Federation and the U. S. Soil Conservation Service.

I. The Land We Inherited From the Indians

THE first white men who set foot upon the soil of what is today the Commonwealth of Pennsylvania found a land of seemingly inexhaustible fertility. They found great expanses of forest literally teeming with an amazing varety of wild creatures. Nowhere else had these men, or any other white men, witnessed such a luxuriance of woods, of waters, and of wildlife as they had found here on this new continent of North America. This land, later to be christened "Penn's Woods," or Pennsylvania, was as beautiful and as bountiful a land as ever existed on the face of the earth.

For ages untold, Nature had been preparing the land and had clothed the mountain ranges, the rolling hills, and the broad valleys with vast forests of noble trees. It had, indeed, taken many centuries for these forest giants to grow and for these forests to develop. The litter which had accumulated on the forest floor—the soft, spongy mass of decaying and decayed organic material—absorbed most of the rainfall and slowly fed this water into many thousands of springs and these, in turn, fed the numerous streams. These forests thus served to regulate the flow of water from the land. Although there were occasional periods of high water when the rainfall was abnormally heavy, the forests did much to regulate the run-off and floods were not a serious matter. Even when excessive run-off did occur the waters did not become muddy because the forest cover largely prevented the soil particles from being washed away from the land into the streams.

Today we may wonder what the original or virgin forests were like. We know that these forests were as variable as they were extensive. Trees native of the North and of the South here joined hands. A vast area in the north-central part of the state was covered with a dense forest growth in which the white pines and hemlocks predominated. The huge trees, many of them five feet in diameter near the ground, often grew so close together that their lofty crowns practically cut off the sunlight from the ground beneath. It was like twilight at midday in this forest; the once famous "Black Forest" of Pennsylvania. In the eastern and western portions of the state, and in the mountain valleys extending up from the South, there were equally extensive forests of hardwoods such as the oaks, hickories, ashes, maples, and numerous other broad-leaved trees. The mountain ridges of the south-central portion contained forests of giant chestnut trees, rock oaks, and pitch pines. Lesser areas in the glaciated Northwest and Northeast were occupied by Northern bog-type forests of tamarack, spruces, balsam fir, and paper birch.

With the exception of small natural openings, scattered bits of meadow land, steep cliffs, and water areas, the entire area of the state was covered with tree growth. Possessed with such a variable forest habitat the stage was all set for its inhabitance by a great variety of birds and mammals. Judging from all of the earlier accounts they were present in almost unbelievable abundance. In most of the forest area deer, bear, and bison were plentiful and elk herds roamed the northern ranges. The predatory wolves, cougars, and wild cats were common, too. Beavers built their dams and ledges along many of the streams and otters made their homes in many of the lakes, and ponds, and creeks. The fisher and the agile pine martin dwelt in the shadowy recesses of the evergreen forests. Wild turkeys and grouse frequented the more sunny openings where seeds and berries were abundant. Immense flocks of waterfowl, composed of many species of ducks and geese, thronged the waterways, lakes, and marshes on their spring and fall migrations. A brilliantly colored little parrot, the Carolina paroquet, on occasions frequented the forests. Truly this land was a wildlife paradise, but perhaps nothing ever witnessed by man surpassed the spectacular flights of the native wild pigeons as they roamed the vast reaches of this primeval wilderness.

The passenger pigeon once existed in unbelievable numbers; literally millions of them must have comprised the immense flocks which wandered the woodlands, following the crops of mast, seeds, and berries. For hour after hour the birds would darken the sky as a great living cloud. The roosting and nesting grounds often covered many miles of the forest and frequently even large limbs were broken off the trees by the sheer weight of the birds. No man who witnessed these flocks could even have dreamed that someday these birds would pass forever into the abyss of extinction.

The original human inhabitants of the land, the Indians, were as much a part of it as were its furred and feathered denizens. The forest and its wildlife provided most of their

needs as to food, clothing, and shelter. Wild fruits, nuts, and edible seeds and berries could be obtained almost anywhere. The elk, deer, bison, bear, and a host of smaller mammals provided an ample source of flesh, furs, and skins. Then, too, there were wild turkeys, grouse, pigeons, and waterfowl in great abundance. The many thousands of miles of streams and the glacial lakes abounded with fish, frogs, turtles, and mussels. Scattered through the forests, and located usually along the banks of streams, were a number of Indian towns or villages with houses constructed of logs, bark, and hides. In small clearings these people practiced a primitive sort of agriculture and raised crops of maize, squashes, and beans. Many of the picturesque names of places, of rivers, lakes, and mountains in Pennsylvania are of Indian origin. It is evident that the Indian, even in obtaining the greater portion of his living from the forest, was not a destructive factor. The native population was never large and their weapons and implements were far less efficient than those later employed by the white men. The Indian seldom, if ever, took more wildlife than he had actual need for. Their wilderness paradise remained intact, through centuries of use and occupation, until the coming of the white man and his civilization.

II. The Era of Exploitation

Nearly all of the accounts sent back by explorers and settlers made at least some mention of the bountifulness of Nature in this New World wilderness. To many the forests seemed as vast and endless as the waters of the great ocean they had crossed. There certainly seemed to be no end to this sea of trees which extended across the mountain ranges and flowed over the rolling hills and down the valleys. Here, indeed, men thought they had found an inexhaustible supply of timber to meet all of their needs and for all time to come. The abundance of wildlife, particularly the numbers of game birds and mammals, the prolific fisheries, and the wealth of fur-bearers, soon became common knowledge. Men had never seen anything like it anywhere in the world before.

Like the Indians, the pioneers obtained a large part of the necessities of life from the surrounding forests but unlike the Indians these white men were not satisfied only with the supplying of these necessities and they soon sought to convert the natural resources of the land into cash. Not infrequently the forests were considered to be an obstacle in the very path of their expanding civilization and the trees were girdled, felled, and often burned simply to clear the land. Timber was

By William Grimm



They found the land abundant with wildlife.

so abundant and so easily obtainable that men not only used but destroyed it with wreckless abandon. Fires were allowed to sweep through the forests and they came to be looked upon as a customary aftermath of the sawmill. Ready markets were soon found for furs and hides, and to some extent for the flesh of the larger mammals. Eventually the market hunters found a good trade in all species of game while others did a flourishing business in the plumage of wild birds. Sometimes, just for sport, men would stage what were called "wild animal drives" and wholesale slaughter of wildlife, both of game and of predators, would result. Usually no use whatsoever was made of the animals which were killed on these drives for the carcasses were left to rot or heaped into a pile and burned. The Indians looked upon such acts of wanton destruction with righteous indignation and, on more than one occasion, endeavored to even the score by dispatching the "brave" participants of these drives to the Happy Hunting Ground.

In the course of time the white man's civilization spread throughout the former wilderness and the great forests of Penn's Woods were gradually consumed by the saw mills. Farms and thriving communities took the place of much of the land once covered with trees. In a little more than two centuries the "inexhaustible forests" had very largely come to their end and men began to face the necessity of looking to more and more distant forest lands to provide a timber supply. From the beginning the lumbering policy had been to cut and get out, leaving behind a desolate, devastated land. Many of the once thriving communities of the lumbering days became mere "ghost towns" and soon little remained to mark their location save crumbling foundations and huge piles of sawdust. No effort was made to sustain the yield of the forests or to provide for future timber crops. Fires which swept periodically over the deforested land prevented natural reforestation and subsequent erosion removed the fertile top soil, often gashing the hills with ugly gullies. Floods became more and more frequent and more and more devastating in the populated river valleys. Men began to wail and to curse Nature for their misfortunes but few indeed realized that man and not Nature had been at fault.

Wildlife, of course, suffered the same plight as did the forests. The herds of bison, or buffaloes, were soon exterminated and were rapidly followed by the elk, beaver, marten, panther, and wolf. The black bear and even the deer were becoming exceedingly scarce over most of their former range. No longer did the beautiful Carolina paraquet add its touch of life and color to the woodlands. The great flocks of waterfowl ceased to come and go with the seasons and each year saw their numbers constantly dwindling. Shortly before the close of the past century the last of the great flights of passenger pigeons put in their appearance and only a few decades later the sole survivor of their legions died in a zoological garden. It is a sad story, replete with man's lack of foresight in handling our natural resources, full of human greed and power of destruction, but it should serve as a lesson for us and for future generations who can save, and in a measure restore, the land and its forests and wildlife.

The dawn of the present century found practically all of the virgin forests gone from Pennsylvania. A great deal of the land area, particularly in the mountains, was of little or no value for agriculture. Many of the poorly-paying mountain farms had been abandoned or were rapidly being abandoned by their discouraged owners. This land was suitable only for growing a new crop of trees; new forests to take the place of the vanished forests of other days. Much of it was lying idle; thousands of acres of fire-swept, eroding land which was an increasing liability instead of an asset. Floods swept down the valleys depositing silt and destruction with them. Droughts became intensified because stream flow was not regulated. Erosion was robbing even the more fertile farmlands of the life-giving top soil. Thousands of miles of streams had become putrid highways of filth, untenantable by any useful form of life and a stark menace to the pub-

(Continued on page 24)



Farms took the place of much of the land once covered by trees.



"Gypie" Photo by Edward Malm, Jr.

The Dog

(Continued from page 3)

death, refusing food, and dying of grief a few days later.

The bench show brings into competition the best of the various breeds. The dog winning 10 blue ribbons in open competition in different shows becomes a champion. This is not easy and sometimes requires years for its accomplishment.

Field trials are held for sporting dogs in various portions of the United States. The setter and pointer here compete in speed, bird sense, deportment, and scenting qualities. They extend all the way from Manitoba, Canada, down through the Eastern and Southern States, the championship being run in Tennessee each January.

The life of the dog is usually about 12 years—sometimes longer—but the end comes all too quickly; and one can but join with Kipling:

Buy a pup and your money will buy
Love unflinching that can not lie—
Perfect passion and worship fed
By a kick in the ribs or a pat on the head.
Nevertheless, it is hardly fair
To risk your heart for a dog to tear.

We have our compensation in the pleasure of studying a pup while developing into maturity. His early surprises, mishaps, and mischief have a humor all their own. He teaches his lesson, and especially to our own "Kid," who takes command of his education.

A good dog costs as much as a horse. Champions of bench shows and field trials bring prices that make the horseman jealous. And these are not prices paid for fancy dogs for the fashionable dame. They are dogs that bring a high price because of their conformation, type, and correct form, and are used for the future improvement of the breed.

There is no sentiment in these values; they are considered investments.

An old darkey put this estimate on the value of his dog:

Dar's a mighty fine monument standin' right nigh,
But to me dis poor mound looks bigger,
For dar's a monument money can't buy—
A yaller dog's love for a negro.

Strange to say, the average man considers the dog of little commercial value and, while he would not ask you for a horse or a cow, he would think nothing of asking for a dog.

I was on a four days' shoot with a friend some years ago who had a very fine female setter. The dog was much admired. As we went from farm to farm he was frequently asked for a pup and, while extolling the virtues of his dog, he freely promised a pup not only to those who asked, but offered one to many who made no request. I watched this performance for several days, and one evening I said: "Do you know you have promised 22 pups and will never be able to deliver them?" He thought for awhile and then said: "Hawes, it's a mighty poor man who won't promise a pup."

If I have aroused an interest in the dog which may lead to the publication of a bulletin in his behalf, some general advice while waiting for the bulletin may be of assistance.

Buy a pup over three months old and, unless you are sure of forming his acquaintance, do not buy one over 18 months old unless for breeding purposes.

Keep your dog's pedigree. It will only cost $1 to register. It adds to both your enjoyment and the value of the dog.

Feed a pup frequently and an old dog but twice a day.

Feed from a pan, never on the ground or floor.

Dogs are classified by weight and feed accordingly: First, those under 12 pounds;





second, those from 12 to 20 pounds; third, those from 25 to 50 pounds; fourth, those over 50 pounds; fifth, those over 100 pounds.

Scraps from the table, when fresh, are the best food, and cost nothing.

Feed the dog yourself; you will control him better.

Feed morning and evening; the big meal at night, as the dog should not be worked immediately after eating.

Do not feed chicken bones; they are covered with a hard substance which frequently cuts through the intestines.

No other animal shares as fully the life affairs of men as does the dog. He resents injustice and has the same respect for fair treatment as does the human being.

The kennel should be dry, clean, and frequently whitewashed.

Use a leather collar, not one made of metal. Don't chain unless necessary.

If the dog sucks eggs, open one end of an egg and put in red pepper.

The master is responsible for a vicious dog. If it is vicious, it is largely his fault.

Properly introduced to the cat, there will be no "cat and dog time."

If he jumps upon you in caress, gently press your shoe upon a hind foot. Do this a number of times and he will stay on the ground.

The pup will imitate an old dog; but don't try and train two young dogs at the same time; give each a private lesson.

Put your own name and address on the collar—not the dog's.

Do not kick your dog or strike him on the head. Use a switch or, grasping him by the neck and back, give him a shaking.

Do not "holler" at a dog unless he is at a distance. Talk to him in a moderate tone. He is guided more by intonation than words. You exhaust your emphasis in continuous "hollering" and he fails to understand.

Do not let your dog chase horses or autos on the road. It is a very bad habit.

Try not to use more than four letters in your dog's name. If you want to use a longer one for his pedigree, give him a short kennel name.

Do not borrow a dog and do not lend one. You may spoil your friend's dog or he yours. A dog must know his own master.

Do not punish a dog long after his fault has been committed. Be sure he knows exactly for what the punishment is administered.

Do not keep a dog in a hot room all day and put him out in the cold at night.

Take your dog into the chicken yard when young and let him stay by your side while you work with the chickens. He will then learn to know that they are your property and respect them. If he is old when you get him and he kills a chicken, try a thrashing. If that fails, tie the dead chicken around his neck and let him carry it all day. He will soon get enough chicken and will leave them alone. This is a favorite method of "bird-dog men" in breaking a pointer or setter from chasing rabbits.

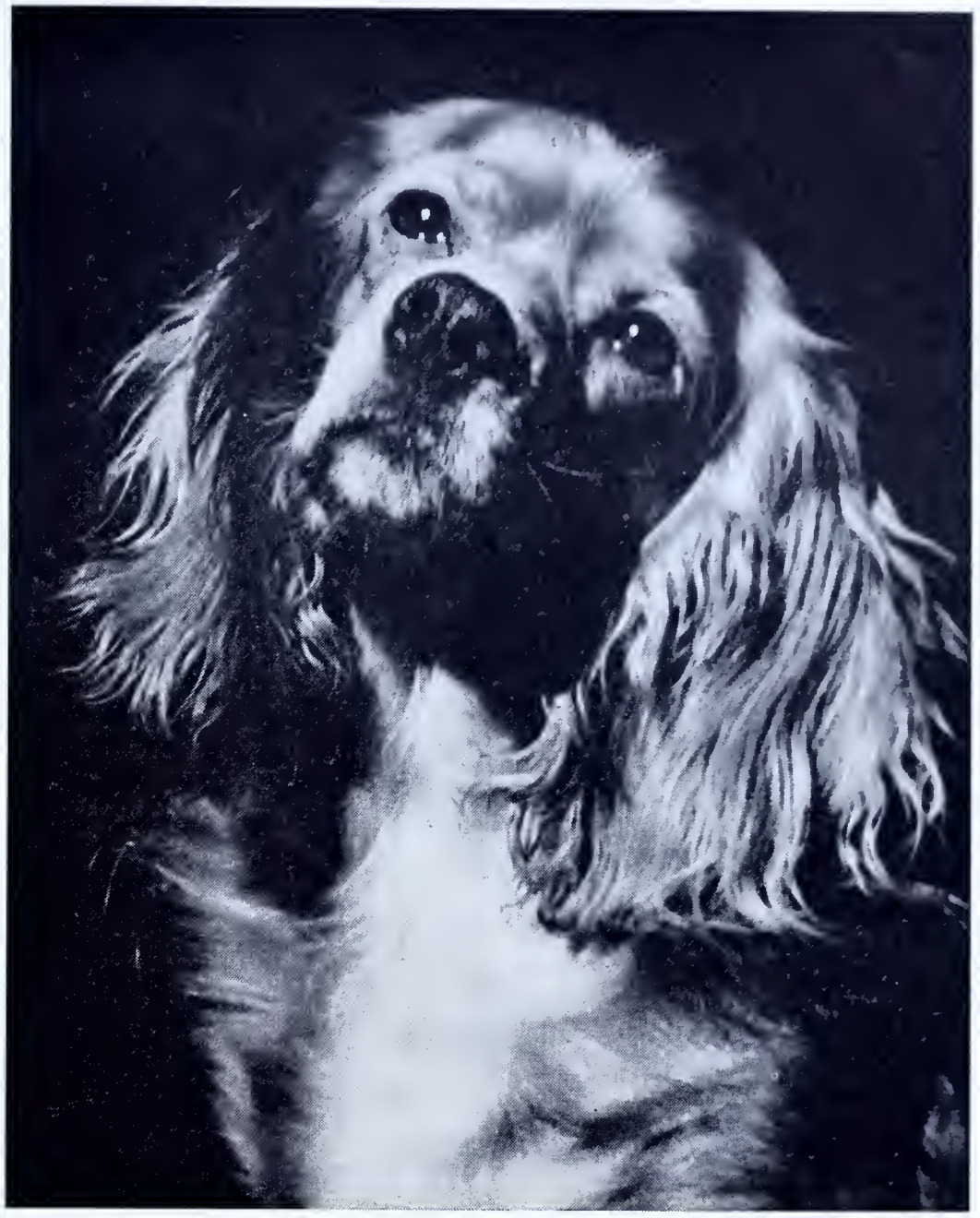


Photo The American Humane Association

"Soulfull"





It is estimated that there are over 300,000 dogs in Missouri, and in the United States an approximate estimate would be over 7,000,000.

Each of the 48 States has legislation of some kind affecting the dog.

Every city of 5,000 inhabitants has some municipal regulation upon the same subject.

"And in this town a dog was found,
As many dogs there be;
Both mongrel, puppy, whelp, and hound,
And curs of low degree."

Putting a low valuation of only $5 upon each dog would make the national investment $35,000,000.



White-tailed deer, Superior National Forest, Cook County, Minnesota.

Don't Waste The Game Crop

(Continued from page 7)

vest impossible next fall it is thought that almost half the deer and elk in the United States will face hunger and possible starvation next winter. Before they starve they will destroy the range for years to come. After the tragic loss of seven-eighths of the Kaibab Forest deer herd from starvation in the twenties, it took fifteen years before the range could again support a normal complement of game. It will never be as good as it was because many of the best forage plants were permanently killed out.

Yet the efforts of State and Federal authorities to control game herds have met with the bitterest kind of public opposition. Although artificially fed elk in Jackson Hole die of starvation at a rate of from 600 to 1,000 annually, local people have fought every effort to reduce this herd. A Wyoming sportsman, quoted in the *Elks Magazine*, flatly accuses the Forest Service of lying, under pressure from "big livestock interests," when it reports that elk in the Bighorn National Forest have outstripped their food supply and are starving to death.

As a matter of fact, livestock interests are jealous guardians of the welfare of big game; every rancher knows that the best way to maintain a good cow range is to keep enough deer and elk to prevent the browse from crowding out the grass. But a rancher who loves fifty deer may hate five hundred.

Under normal conditions there is little competition between big game and domestic stock for food. In general, stock eats grass, while game prefers browse. Stock and game can eat happily at the same table, and should. But if there are too many deer—or elk, antelope, cattle, or sheep—on a range, the dominant species cannot select its diet, and has to rob other animals of food. If browse is gone, deer will turn to grass or anything else to postpone starvation. Starving cattle will eat browse. If the whole range is worn threadbare, famished animals will fight indiscriminately for whatever food is left.

It is where such conditions prevail that big game is damaging crops and livestock range. Fourteen States report deer damage to range, orchards, truck crops, corn, small grain, stacked hay, and gardens. Seven report damage by elk, four by antelope. Imagine the feelings of the rancher near Denver Mountain Parks who counted 845 elk on his ranch at one time, stripping the forage and tearing down haystacks! As for antelope, they were near extinction not so long ago, but recently 27,000 of them were counted in a Wyoming county which had been thought to have only 5,000.

Even ducks can make a farmer swear. In 1941 a quarter of a million mallards wintering on the Jumbo Reservoir in northeastern Colorado took about 50,000 bushels of corn on 15,000 acres—enough to fatten 1,200 steers. Last fall the ducks moved in again. An SOS to the Federal government by the authors of this article brought Fish and Wildlife Service agents to scatter the flock with high-powered rifles, flares, skyrockets, searchlights, dynamite bombs, and tracer bullets. The farmers estimated that as a result $20,000 worth of corn was saved.

Nobody claims there are too many ducks in all of North America—yet. But there *are* too many in spots, scattered over twelve Western and Midwestern States. As with big game, huge "cities" of ducks in underhunted areas, especially unregulated refuges, outstrip their winter food supply and settle down like a Biblical plague over forage and crops. In western Washington ducks all but took last season's cabbage crop. Many Sacramento Valley truck and rice farmers say they will have to move out if damage by ducks isn't controlled.

Of all upland game, rabbits and pheasants are the hardest to control. Twenty-three States report damage to crops by rabbits; seventeen report damage by pheasants. So fast have these birds multiplied in the United States that, although 15 million were killed last year, that was not enough to stop the increase. Thousands of bushels of grain were eaten by pheasants that will probably die of natural causes. That corn would have made a lot of pork chops.

Please do not conclude from this evidence of game surpluses that *all* wildlife should be slaughtered indiscriminately to win the war. A few species, such as big-horn sheep and mountain goats, have not "come back" as yet, and still need drastic protection everywhere. Most native upland birds, especially quail and grouse, will profit from wartime's partial moratorium on hunting. Even deer are scarce in some places. But more hunters by the thousands are needed this season to harvest the surplus game in the overcrowded areas.

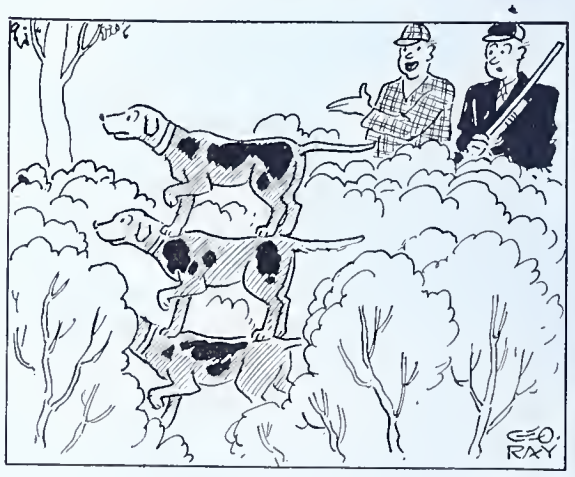
III

The paradox of the situation is that, although our game authorities have plenty of power to deal with scarcities of game, many of them haven't the power (to say nothing of not having enough hunters) to control surpluses.

Authority to effect removal of excess *domestic* livestock from range that was being destroyed has enabled the U. S. Grazing Service to put the livestock industry, on Federal lands, on a permanent sustained-yield basis. Game authorities want to do the same thing with game. But they can't do it.

The main trouble is that the public and politicians, after choosing their game managers supposedly for expert knowledge and ability, insist on telling them what to do and how to do it. Half the Game Commissions in the United States are hamstrung by meddling legislatures, ponderously meeting once in two years to pass inexpert, tardy, blunderbuss laws in a highly technical field they know nothing about.

The inflexibility of existing laws often leaves game managers powerless to cope with emergencies. California has 400,000 deer, cherished by a doe-loving legislature. Last year Army dimout and fire-prevention regulations cut the hunting season short. Result: a paltry 17,000 bucks were harvested—only 4.3 per cent of the herd. The harvest should have been at least five times as large. Seven and a half million pounds of meat wasted—enough to ration San Francisco for six weeks! A bigger bag limit would have saved the meat; a doe season



One dog's no use around here, the bushes are too high!"

would have checked the mounting surplus; a winter hunting season would have complied with Army orders. The Game Commission had authority to order none of these. (Since then, happily, the authority has been granted.)

This brings us to the "Sanctity of the Doe." If there is one thing of which the uninformed public is sure, it is that does must never be killed. But every livestock raiser knows you can't control the breeding potential of a herd by harvesting males alone.

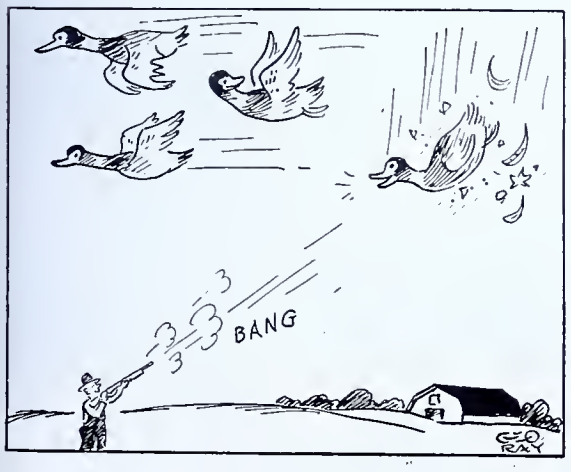
Game managers are at last beginning to persuade sportsmen, if not the general public, that this is true. When the New Mexico Commission, facing an acute surplus of deer in the Black Canyon area, first declared an open season on does, placards flamed from telephone poles and trees: "No sportsman ever shoots a doe!"—and no sportsman did. But now they do—educated by a persistent Game Commission.

Pennsylvania, long a bright spot in game management, has had eleven doe seasons since 1923, two for does only. Does are sanctified by the legislature in Michigan. With one-fifth less deer range than Michigan, and a herd about the same size, Pennsylvania has harvested in the past eleven years almost 300,000 more deer than Michigan, and has just as many left. That's more than 30 million pounds of meat as a bonus for good management.

Game managers don't want to slaughter does. They just want to manage game. Is it good sense to accuse them of trying to wipe it out, when most of them depend on hunting-license revenue for their salaries?

Another legal obstacle to good management is the absolute, inviolate type of refuge. It is not needed any longer. But we are still establishing new refuges of this type. In 1941 the Colorado legislature created two. A Presidential proclamation has just added 221,000 acres (one-third of the area of Rhode Island) to a Wyoming elk refuge which has been added to four times and still has starving elk!

Private preserves are a still harder nut to crack. Duck-hunting rights on Barr Lake, northeast of Denver, are leased by wealthy sportsmen. Neither the State nor the Federal government can legally control these ducks without permission of the lessees. The only recourse of the farmers is to bring damage suits if the ducks ruin their crops. Damage suits against whom? Are the sportsmen liable for damage done by ducks which legally belong to the Federal government?



"So long boys, I'm going off the air."



Cottontail rabbit in its form.

Is the government liable, when it has no legal right to control the ducks?

Many administrators feel that individuals or clubs controlling exclusive hunting privileges in choice game resorts should be required to make use of those privileges—at least to the extent necessary to keep the game from damaging other people's property. There is a Scottish precedent for this: anyone leasing grouse-hunting rights to a moor has to harvest a stated number of birds from that moor.

IV

All this adds up to one very simple thing—the need for more flexible control of game by experts competent to administer it.

Perched on a pyramid of inflexible policies a decade out of date, most Game Commissions have been left high and dry and forgotten by a public and lawmakers intent on phases of war-winning more obvious than saving meat and range. Meanwhile a thousand changes requiring quick action have taken place overnight. A third of the hunters have gone to war or are too busy to hunt. Most of the rest cannot get gas and have to hunt near home. Ammunition is scarce. Military regulations have affected game control.

Part of the *chronic* confusion lies with a system which makes for hopeless division of authority between six independent Federal agencies and forty-eight State commissions—besides the legislatures and the public. Each agency determines its own policy, which is often at odds with that of another. They have never got together on a consistent program of management.

But we have muddled through with these chronic ills for years. The crisis of 1943 is caused by the scarcity of hunters, ammunition, gas, and guns.

As we write this, it appears that hunters are to be allotted no ammunition beyond what is already in dealers' hands. This despite Lieutenant General Somervell's statement of April 27th that, of all war goods, there is a reserve supply of only one, and that is ammunition. If hunters cannot go into the woods next fall millions of acres of range will be "scorched earth" by spring—not only for one year, but for years to come. The only remaining means of preventing this will be for State and Federal authorities to harvest surplus game—though conservationists bitterly oppose this except as a last resort.

To meet the present emergency and cure the chronic ills the authors of this article advise: (1) release of as much ammunition to hunters as is consistent with military needs; (2) liberalization of seasons and bag limits in game-surplus areas, as far as present legislation permits; (3) repeal of statutory obstacles by legislatures that can meet; (4) a committee of game authorities, cooperating with the Food Administrator perhaps, to work out a unified wartime program for surplus game control and utilization which might be adopted by all agencies; (5) as a very last resort, harvest of surplus game by State and Federal authorities in areas where hunters cannot do the job. As a long-range measure we suggest also the eventual relinquishment of legislative authority to State Game Commissions.

Game, wisely handled, can help win the war, and better its own estate in the process. We need the meat desperately. We need the forage, grain, and gardens destroyed by surplus game animals. And we need the by-products of hunting—hides, furs, fats, and feathers. We used to import a million deer hides a year, while American hunters threw away almost half that many, under State laws forbidding the sale of any wild game product. Salvage is a new word in our national economy. These laws should be modified accordingly.

So if you have given up hunting because you thought it was unpatriotic, forget your qualms. It is about the most patriotic fun you can have. But before you go, drop your Game Commission a card and ask them where the surpluses are. Go where they send you.

Wildlife Conservation—Its Past, Etc.

(Continued from page 18)



Photo by W. L. R. Drake

Time out for a snack!

lic welfare. Wildlife, particularly those species classed as game, was at a low ebb and disappearing fast. Now we had arrived at the conservation crossroads. It became a question of whether or not we were going to completely lose this great natural heritage of ours, the last remnants of which were rapidly slipping through our fingers.

III. The Era of Conservation

In these days we hear a great deal about the conservation of our natural resources. Conservation has been defined as the "wise use" of such resources. Now all of our natural resources are not necessarily to be conserved in the same manner. Some natural resources, once they are used up, can never be replaced. These are the *non-renewable* resources. They are an integral part of the earth, have always been there, or have been developed over such an exceedingly long period of time that we consider them as belonging to the earth's crust. In this class we have all of the mineral deposits such as the ores of iron, copper, tin, zinc, etc., and also the deposits of coal and oil. There is no method by which the supply of such resources can be replenished once they are gone although man may devise substitutes for some or all of them in the event this happens. The second group of natural resources are those which are capable of renewing themselves, the *renewable* natural resources, although some of them may require considerable time to develop. In this latter class we have such things as forests, grasslands, soils, and wildlife.

Plants and animals are living things, or as we often say they are "organic." In contrast to the non-living, mineral, or "inorganic" matter, living things have the power to *grow* and to *reproduce* themselves. Soils, in a certain sense, are in part built up by living things and they contain a great deal of organic matter but if all of the soil were to be removed, down to bed rock, it would require ages for its renewal. When we hear the word "conservation" it is usually in connection with these renewable natural resources and it is in that sense that we are employing it here. As far as living things are concerned, there is always some hope of perpetuating them for the future. The era of conservation came too late to save the passenger pigeon, the Carolina paroquet, the great auk, and the heath hen from extinction. Several other species are even now on the borderline but we can be thankful that many, many more forms of wildlife did not pass down the faded trail and become but a memory.

It was fortunate that at least a few men foresaw the disastrous course we had been taking and that they possessed the courage and the ability to turn us from that course. That was not by any means an easy task, but we can be thankful that it was accomplished. The story of the long, uphill fight against the prevailing forces of power and greed is a most heartening bit of our national history—and it still continues. We in Pennsylvania can well be proud of the men who so ably, and unselfishly, pioneered in the conservation movement as well as rejoice in their accomplishments.

The first outstanding efforts were those directed toward forest conservation and the reforestation of the cut-over lands. These efforts very early resulted in a program of state acquisition of lands for forestry purposes. For the most part they consisted of these deforested "deserts" full of burnt snags and stumps but, at the same time, a program of practical forest management was adopted, an efficient system of fire protection was set up, and nurseries established to grow seedlings for replanting. It was proven that the forests could be brought back. Today few persons would dispute the value of the State Forests as a practical investment. They are not only growing a new crop of trees but providing recreation for thousands and protecting numerous important watersheds. In subsequent years the Federal government established the Allegheny National Forest at the headwaters of the Allegheny River in Northwestern Pennsylvania. Trees are a crop and will be handled as such on the State and National Forests.

Following closely in the steps of the forest conservationists, some of our sportsmen and naturalists laid the foundation of a program for game and general wildlife restoration. Stricter laws were formulated to protect song birds, game birds, and game and fur-bearing mammals. Areas were set aside, at first principally on the State Forests, as State Game Refuges. These were, in effect inviolate sanctuaries for wildlife. Today, in addition to the State Forests, more than 750,000 acres of land are being primarily developed for wildlife and public hunting under the title of State Game Lands. Through the untiring efforts of the Pennsylvania Game Commission and the sportsmen of the state, our wildlife situation has steadily improved and again Penn's Woods has become an outstanding hunter's paradise. Efforts have been made time and again to alleviate the pollution of so many miles of our streams but thus far only with mediocre success. Much of the stream pollution is not at all necessary. The elimination of the pollution evil remains a challenge to all, not alone to the sportsmen who have thus far borne the brunt of the battle.

It cannot be denied that we have made remarkable progress in conserving our forests and our wildlife but by no means have we solved all of our problems. We have only recently started to apply the scientific method in solving many of them. If conservation of forests and wildlife is to achieve the maximum possible success we must seek for, and make a practical application of, the underlying biological principles. The practical and efficient forester or wildlife manager must possess a broad scientific knowledge of plant and animal life and of the soils which sustain that life.

Years ago we started out with individual "pet peeves" such as forest conservation, game conservation, song bird conservation, etc., but today we see all of these only as

(Continued on page 31)

How to Handle Your Gun in The Field

(Continued from page 9)

Beware of dewberry vines; they may trip you up for a really vicious fall and cause you to drop or even throw your gun in falling. Don't let your dog climb over a loaded rifle or shotgun or stand upon it. His feet may discharge the arm.

Be careful when climbing fences, especially old worn fences or barbwire fences with loaded guns. Lay your gun on the ground flatwise before going over the fence, then pick it up and check it to see that no snow, ice, or mud gets in the muzzle accidently before you start off again. Never pull a gun toward you by the barrel. Never sit on cold stones, wet logs, or wet and rotted stumps to rest; better stand or lean against a tree if the ground is wet. A cold settled in the abdomen may become very serious and may even lead to pneumonia or inflame your appendix. If game runs between you and a companion or a nearby house, hold your fire.

Heavy shooting glasses worn while hunting in the brush may save many an eye. A small pocket mirror in the hunting coat is also very useful for removing foreign particles from the eye. Any hunter knows how often you get something in the eye, often miles from an occulist. Sometimes you are sharply slapped across the face with briars or brush while on a deer drive. When this occurs the pain may cause you to drop your rifle and have an accident. It is better to be safe than sorry.

If you are going to hunt in a section where gunners are heavily concentrated, wear the BRIGHTEST RED GARMENT you can buy. A little red cloth is the CHEAPEST INSURANCE POLICY you can purchase and it won't affect your chances of killing game. When selecting a stand for goodness sake choose one that protects you from as many sides or angles as possible, then stay put. Don't go crawling or creeping around, or sneaking through the brush; somebody might mistake you for a deer. If you kill a deer don't throw it over your shoulder and then start walking through the brush. Someone's bound to take a pot shot at you.

If you're middle-aged and not used to much exertion don't sit up half the night playing cards, then put yourself on the outside of a dozen pancakes, four or five pieces of sausage and three cups of java, and start high-tailing it for the top of the mountain. You may never get there. Heart failure kills many a middle aged hunter.

Do not smoke in the woods in dry weather, or build unnecessary fires in wooded country. You can warm up just as well by taking a brisk walk and clapping your hands against your shoulders. Victims of hunting accidents, especially those who are shot in mistake for various kinds of game, very often directly and unmistakably attribute to their own death because of the positions they assume and the clothing they wear. Dark blue coats, brown felt hats, grey trousers or grey sweaters all have been contributing factors to hunting accidents.



Photo C. Gordon Krieble

Be careful where you point your gun.



Never lean your gun where it can slip and fall on you.

MR. HUNTER!

The following "Sportsman's Golden Rule", prepared and adopted by the Montgomery County Fish, Game & Forestry Association is being offered in an attempt to foster goodwill, to prevent hunting accidents, and to conserve game and shells. Heed it and your days afield will be happier and more successful ones.

Goodwill—Extend every courtesy to the landowner. Respect his authority. Ask permission to hunt. Do not harm his livestock or property.

Security—Be extra careful in handling firearms. Hospitals, doctors and nurses are too busy with regular duties these days. Do not add to their burdens by being careless with your gun.

Patriotism—Do not waste a single pound of edible game meat, or a single shell; share both with others less fortunate. Save animal fats and deerskins for the war effort. Remember that your comrades in the Service deserve good hunting when they return home from the battlefront.

OBEY THE LAW! EVERY HUNTER SHOULD CONSIDER HIMSELF A GAME PROTECTOR!

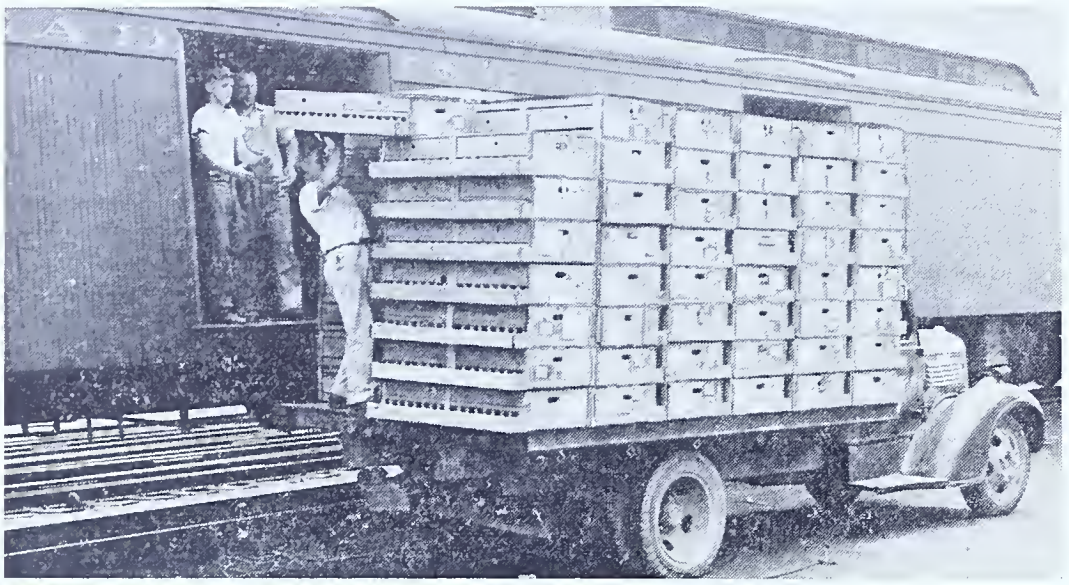


Photo Williamsport Grit

A shipment of ringneck pheasants consigned to depleted covers from the Loyalsock Game Farm.

Sex and Age Determination of Wild Turkey

(Continued from page 11)

16 weeks of age usually signifies a gobbler. (2) A thin beard or the absence of a beard on a bird of the same age or older usually indicates a hen. (3) A bird weighing less than 10 pounds during the hunting season is, as a rule, a hen. (4) A bird weighing over 15 pounds is probably a gobbler. (5) A bird weighing between 10 and 15 pounds during the hunting season is usually a hen or a young gobbler. (6) The gobbler is a heavier framed bird, has a thicker tarsus or shank, more wattles and caruncles around the head and neck, larger head, taller appearance and less feathering in the vicinity of the beard than the hen. (7) The hen has buff-tipped contour feathers on the breast region, while those of the gobbler are black. (8) The upper tail-coverts of the hen are light tan in color, whereas that of the gobbler is chocolate-brown in appearance. (9) Turkeys from February to June with a middle (third) toe less than 2.5 in. are yearling hens, between 2.75 in. and 3.25 in. are either old hens or yearling gobblers, and over 3.25 in. are gobblers.

The age of a wild turkey may be determined by the following methods: (1) Length of the beard; although this is not always a sound method, it serves as an indication of age. (2) If the two outer primaries of a wild turkey are pointed and tipped with plain gray, they are yearling birds. If they are rounded and marked with white almost to the extreme tip, the bird is 15 to 16 months of age or older. (3) If the outer periphery of the tail has a definite extension and lacks the semi-circular appearance, the bird is a yearling or less than 14 to 15 months of age. A smooth outer edge indicates an older bird. (4) Relative size of the birds in a flock indicates usually whether they are young or old birds. (5) It is possible to sex day-old chicks by the genital papillae. (6) The presence of the bursa of Fabricius indicates that the bird is less than 8 months of age.

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Mr. Hunter! Save your deerskin this year.

The Eternal Question

(Continued from page 5)

gram. Full knowledge of the facts may give us an entirely different viewpoint on which to base our judgment.

In Georgia the marsh hawk was observed killing qail and consequently was thought to be a serious predator, but Stoddard found that in some sections the real culprit was the cotton rat which the marsh hawks were helping to keep under control and that, while the hawks did take a few qail, they were doing much more good than harm. Many other similar instances could be mentioned.

In order to obtain the best results from research, a long range program must be established and each project should have a correlative place in that program. We must not be impatient and expect quick results in every instance, for a research project properly carried out may take time and will often extend over a number of years before definite conclusions can be drawn.

There are many things we would like to know, in fact must know, in order to carry out successfully any game restoration program, wild turkeys once inhabited all of the State of Pennsylvania. Now their range is limited to a small section of the State. Is it not possible that in the not too distant future their range can be greatly extended? Proper environment and good breeding stock is the answer. We have made progress in the last five years but we still have much to learn.

We are faced with many problems that demand solution. If we hope to solve them, and at the same time develop and maintain a substantial conservation program, we MUST have an adequate force of specially trained men to provide facts that will enable us to proceed intelligently.

Burning off *grazing* land in the early spring causes fire injury to grass roots and seed crowns and may decrease the amount of summer feed very seriously.

Soil for a window box can be *sterilized* by putting it in the kitchen oven with a potato buried in it; when the potato is thoroughly baked the sterilization is complete.

Only about 10,000 of the 640,000 known *insect* species are destructive to the works of man.

In the Marine Corps, most of the heavy gun pointers will be found to be former members of a rifle club. That same situation applies to the Navy, even to the pointing of its biggest guns.

It is the man who has become familiar with the handling of a firearm, sighting and holding a rifle or shotgun, who naturally grasps the instruction more quickly, "holding on" the target much more instinctively.

Fur Trapping Methods

(Continued from page 13)

this is intended merely as a timely precautionary tip and mentioned because there will be more profiteers and racketeers than usual in the raw fur buying game this season. They will ply their trade so cleverly as to deceive even those who should have known better.

The Muskrat

The most popular fur and the one that is sought most by trappers and rated as the mainstay of the fur trade is that of the common muskrat. The fur of the muskrat is very thick, is of excellent quality, and has been in steady demand.

The muskrat is comparable to the cottontail rabbit in many ways. It is the most prolific of our native fur-bearers, its food consists of vegetation such as is common about the waters everywhere, and its flesh is fit for human consumption.

Natural enemies of the muskrat are numerous. They include minks, foxes, raccoons, dogs, cats and the birds of prey. Among them the mink, possessing all the litheness and traits of the weasel, ranks as the arch enemy. Pound for pound, the muskrat and the mink are rated about the same, but in a fight for survival the muskrat is a poor match against its most dreaded adversary. When a mink is out to kill muskrats it will enter into and search every underwater subterranean cavity along its course of travel; it will bore holes into the sides of muskrat houses if necessary in order to seek its prey. Despite all of this the muskrat is holding its own, or better, in its native haunts throughout Pennsylvania—all attributable to the fact that nature has provided the weaker species with a more abundant reproductive organism.

Muskrat Sets

The trapping season comes in at the time when frosty weather with intermittent snowfalls and ice freezes prevail, and the trapper must cope with these to the best of his ability and take advantage of any mild or warm spells that come along. In fact it is during the more favorable weather that muskrats move around most. On warm, rainy nights they swarm about in the waters everywhere.

Muskrats live in colonies. Their houses or huts, which are constructed of water vegetation, mud and sticks, are very conspicuous objects even at this time, and the little fur-bearers continue to enlarge their domicile up until the most severe freezes come and put a stop to their activity. Their homes are located in shallow marsh or swamp waters and about the shore waters of lakes and dams. In streams and creeks the uncertainties of force and water levels cause the muskrat to change from the ordinary method of home construction and resort to subterranean shelters with entrances under water.

The average fellow prefers to make his sets at the underwater entrances to the muskrat's home. The stake to which the trap is wired or looped is placed out in deep water so that when the animal gets caught it drowns while confined under the water. The weight of the trap has a tendency to hold the trapped creature down and hastens the drowning. However, a common mistake that is made by the inexperienced trapper is that of failing to provide properly to affect a drowning. It is a good policy to bear in mind that, regardless of what type of set is used to catch muskrats, it pays to devote a little extra time and care to arrange the set. Failure to comply with this rule will only result in losses and disappointments. The muskrat usually gets caught by one of its very frail front feet and when it twists around in the trap in an attempt to free itself it wrings its foot off in very short order and escapes.

Other sets that are relied upon and used extensively include the bait, slide, runway and log sets. Each possesses its good points and merits consideration. The bait set involves the use of a small carrot, parsnip, sweet apple or some other fruit or vegetable which is placed on a stick about a foot above the trap. The slide set requires placing the trap at the bottom of the slide—muskrat slides occur at banks and the little animals go up and down them in going from or coming to water. The runway set is employed in the pathways in and along the water. Usually these trails are pretty well defined and the trap is placed in the narrowest spot. The log set is used, as implied, on the waterlogged timber that protrudes out of the water. Muskrats have a habit of getting up on and walking on this fallen, partly submerged wood.

It should be remembered also that minks and raccoons use the various places ordinarily frequented by muskrats and care in establishing a sure-hold set may result in catching one or the other of the bigger animals.

If it's trapping that you're interested in, go ahead and try your luck. Play the game square—obey the law—be fair with yourself, your fellow sportsmen, the wild animals and your country; by all means, collect fats for National Defense.



Photo by Walter Lindstrom
Satisfaction that comes with triumph.

"Predators are taking a heavy toll of small game in Mercer County. The four-footed and winged type are not the only kinds that are killing game. It was reported to me that a driver was observed on the Grove City-Sandy Lake road in the act of running clear over on the berm to hit a cock pheasant. This driver accomplished his purpose and went on his way."

"A fox was observed in Cool Spring Township the other day lying under an electric fence with a dead rabbit nearby. It is believed the fox killed the rabbit and in some way got tangled in the fence and was electrocuted. The fox had a bloody mouth from chewing the fence after the wire was in contact with its body."—Game Protector Samuel K. Weigel, District 9, Division "F".



Photo by the Author
Cut-over country, especially around abandoned saw-mill sites, makes good trapping territory.

★ ★ ★ CURRENT TOPICS ★ ★ ★

Law Enforcement Body Meets

Many problems of game law enforcement arising in the various States were aired and discussed at length at the Second Annual Conference of the Conservation Law Enforcement Chiefs Association held at the State Office Building, Hartford, Connecticut, September 13 and 14. The association at present comprises the States of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont, Virginia and West Virginia.

The Pennsylvania Commission was represented by W. C. Shaffer, Chief, Division of Law Enforcement, who acted as chairman of discussions on "Equipment, Supplies and Materials; Their Purchase, Standards and Distribution" and "Short Wave Radio for Enforcement Work." Other discussions included "Cooperative Enforcement Between Bordering States," and "The Taking, Preserving and Utilizing of Wildlife for Food Purposes for the Duration of the War," headed by Henry A. Teal, New York; "Dogs at Large During Close Season on Game," and "Should Conservation Officers Work with OPA in Reporting Gasoline Violations," headed by Ralph G. Carpenter, 2nd, New Hampshire; "Stocking Fish and Game," and "Protecting Wildlife Through the Winter," headed by Harry E. Cudney, New Jersey; "Cooperative Enforcement Between States and the Fish and Wildlife Service," headed by Orin D. Steele, Massachusetts; and "The Importance of Training the Law Enforcement Officer," headed by Lieut. Leo J. Mulcahy, Connecticut.

The association elected two Honorary Members, namely, Frederick C. Walcott, Connecticut, and George C. Warren, Jr., President of the New Jersey Fish & Game Commission.

Officers for the 1943-44 session include Harry E. Cudney, President, New Jersey; Henry A. Teal, Vice-President, New York; Harold W. Gibbs, Secretary-Treasurer, Rhode Island. The Executive Committee consists of Ralph G. Carpenter, 2nd, New Hampshire; W. C. Shaffer, Pennsylvania and R. S. Harris, West Virginia.

The Eleventh Commandment

By W. C. Lowdermilk,

U. S. Soil Conservation Service

Thou shalt inherit the holy earth as a faithful steward, conserving its resources and productivity from generation to generation. Thou shalt safeguard thy fields from soil erosion, thy living waters from drying up, thy forests from desolation, and protect thy hills from overgrazing by thy herds, so that thy descendants may have abundance forever. If any shall fail in this stewardship of the land thy fruitful fields shall become sterile stony ground and wasting gullies, and thy descendants shall decrease and live in poverty or be destroyed from off the face of the earth.

IN MEMORIAM



SAMUEL H. PRICE

Another old timer has joined the ranks of those who have gone to their last reward, and the Commission and his many sportsmen friends mourn deeply the passing of Samuel H. Price of Shade Gap, who served the Commission loyally and faithfully as a Game Protector in Huntingdon County from September 24, 1919 until he retired on May 31, 1937.

Sam was one of those genial characters, the memory of whom lives forever with all who knew him, and like all the other employes of the Commission who have either passed on or retired from active duty, he remained an unofficial champion of the conservation program up until the very last.

Quail Queen Lays 186 Eggs in Year

Meet the new world's champion, ladies and gentlemen, none other than Miss Bob White II, of Buffalo Springs State Game Farm.

This proud little queen, hardly a handful in stature, has produced 186 eggs in one year.

"It must be a world's record so far as records go," declares veteran Buffalo Supt. J. F. Tomlinson. "In my experience I've never heard before of a Bob White quail laying more than 161 eggs a year."

The speckled record-breaker is the product of several years of selective breeding. She comes of a proud line. The late Miss Bob White I ("Mrs." might be more proper) laid 743 eggs in six years, before her death, on October 24, 1937.

A new invisible *insecticide* paint, applied to window and door screens, kills flies, mosquitoes, gnats, moths, and ants trying to get in or out.

New Stream Map

Ye editor is just in receipt of a splendid streams map of Pennsylvania compiled by Johnny Mock, sports editor of the Pittsburgh Press. It is about the most complete thing of its kind I've ever seen, is convenient in size, 17 x 28, and is printed on a very good grade of paper. I understand there is a service charge of 50c for it, and anyone interested can secure a copy by writing Mr. Mock at 5236 Clarwin Ave., (2), Pittsburgh, Pa.

FIELD NOTES

"I was informed by Mr. Mershon, who lives on a farm in Saxonburg, that while cutting hay he observed three albino ringneck pheasants several times."—Game Protector George W. Miller, District 14, Division "F".

"On August 30, 1943, I received a call that a deer had been killed on the highway near Liberty. I went to the point as instructed but was unable to find the animal. After a considerable amount of searching I located the trail of a deer that apparently had been hurt. I followed the trail, which led me to a railroad culvert. The animal, two legs broken, had crawled into the eighteen inch passage for a distance of ten feet. This is the first time in my experience that I have had to dig a deer out of a hole."—Game Protector Claude B. Kelsey, District 2, Division "E".

"One of the most unusual things coming to my attention last month occurred at the time that I released two fox squirrels that had been raised in captivity from the time they had their eyes open. They had been picked up by a worker on the large pipe line running through Greene County after the tree in which they were living had been pulled over by the tractor clearing the right-of-way. They were raised on a bottle and were never out of the house until the day I released them about six months later. The thing that surprised me was that after playing around on the ground awhile under the tree on which I released them they proceeded to make a leaf nest in the tree and take a nap in it. Later they made two other nests in the same tree. They seemed to prefer the nests to the holes in the tree."—Game Protector John F. Blair, District 13, Division "G".

"Harry Defina, U. S. Coast Guard, stopped to see us enroute to his home on a short leave. We gave him a fox chase. He says he will be glad when the war is over and he gets out on the job. Several of the Deputies dropped in to say hello as they all think a lot of him. He said he could not go to sleep without hearing water splashing against the boat, so my boy and I took turns splashing water against the house with the hose until he went to sleep."—Game Protector Frank L. Coen, District 12, Division "F".

Sportsmen's Handbooks Available

A series of handbooks of general interest to sportsmen can be secured from the Outdoorsman, Columbus, Ohio, for 25c each or 5 for $1.00 postage paid. They are as follows: The Quest for Trout, Hunting the Wild Turkey, Crow Shooting, Retriever Training, Training the Coonhound, Bird Dog Training Made Easy, Raising Mink for Profit, Whitetail Deer Hunting, Bass Fishing Facts and Camp, Trail and Canoe.

Other valuable handbooks include "Hunting the White-tailed Deer," published by the University of Minnesota Press (price unknown). This pamphlet also has some good recipes for camp cookery. "Duck Hunters' Determinant" is a manual for identifying ducks and geese, published by the Telegraph Press, Harrisburg, 25c a copy, and still another called "Camp Cookery," published by the MacMillan Company, price $1.00. This is a truly worthwhile assortment of game recipes which every hunter's wife should possess.

Hunters who harvested the wild game crop during the 1942-43 hunting season took 255,404,000 pounds of usable meat, according to a report made to Secretary of the Interior Harold L. Ickes, by the U. S. Fish and Wildlife Service.

Based on data taken from State Game Departments and other sources, the tabulation reveals that deer alone yielded more than 59,000,000 pounds, with elk 9,000,000, and antelope, moose, bear, mountain sheep and goats totaling 1,650,000 pounds.

Among upland game, wild rabbits amounted to 68,735,000 pounds, squirrels more than 22,000,000, while raccoon, opossum and woodchuck totaled 14,222,000 pounds.

Ducks accounted for 32,500,000 pounds and geese, 3,000,000.

Upland game birds, including qail, pheasants, grouse, partridges, and wild turkeys, totaled 42,243,000 pounds, with pheasants (15,000,000 of them) accounting for 30,377,000 of the total.

Doves, bandtail pigeons, and woodcock added 2,405,000 pounds.

"With the present severe shortage of domestic meats due to the necessity for shipping such large quantities to our armed forces and to our allies, these wild species provide a food resource that is becoming increasingly important," said Albert M. Day, assistant director of the Fish and Wildlife Service. "A deer or an elk or a pheasant or a creel of fresh water fishes taken by a sportsman and used in the home or given to his friends releases an equivalent amount of beef, pork, lamb or poultry that can be consumed by the public or made available for military needs."

The largest reported American *elm* tree in the United States is 30 feet in circumference; it is at Wethersfield, Conn.

Six colonies of *beaver* in New York State, involving a total of approximately 15 years, cut 5.424 trees measuring from one inch to 7 inches in diameter, 7.6% being six inches or more in diameter.

OFFICIAL 1943 OPEN SEASONS AND BAG LIMITS

(All Shooting Hours Based on Eastern War Time)

Open season includes both dates given, Sundays excepted for game. **On October 30 no hunting of any kind before 9 A. M.** With this exception, non-migratory game shooting hours daily are 8 A. M. to 6 P. M., except from July 1 to September 30 inclusive, 7 A. M. to 8:30 P. M. (See Migratory Game shooting hours below; also notes on setting traps in open counties.) Raccoons may be hunted at night, with a noon-to-noon daily limit.

UPLAND GAME (Small game possession limit three days' bag)	Bag Limits Day	Season	Seasons Open	Close
Ruffed Grouse	2	10	Oct. 30	Nov. 27
Quail, Bobwhite	5	15	Oct. 30	Nov. 27
Hungarian Partridges (Cumberland and Franklin Counties only)	2	8	Oct. 30	Nov. 27
Wild Turkey (See 9 counties closed below)*	1	1	Oct. 30	Nov. 27
Ringneck Pheasants, males only	2	12	Oct. 30	Nov. 27
Rabbits, Cottontail	5	25	Oct. 30	Nov. 27
Squirrels, Gray, Black and Fox (combined kinds)	6	24	Oct. 30	Nov. 27
Squirrels, Red	Unlimited		Oct. 30	Sept. 30, 1944
Grackles (commonly called Blackbirds)	Unprotected until Sept. 30, 1944			
Hares (Snowshoe Rabbits)	2	6	Nov. 22	Nov. 27
Raccoons, by individual or hunting party: Upper Zone: (11 counties)*	3	15	Oct. 20	Jan. 15, 1944
Lower Zone: (56 counties)*	3	15	Oct. 30	Jan. 15, 1944
Raccoons, by trapping (See 7 counties closed below).* Traps not to be placed before 8 A. M. opening date		15	Nov. 10	Jan. 31, 1944
Woodchucks (Groundhogs)	5	Unlimited	July 1	Sept. 30
Bear, over one year old by individual	1	1	Nov. 15	Nov. 20
Bear, over one year old by hunting party of three or more	2	2	Nov. 15	Nov. 20
Deer, male with two or more points to one antler	1	1	Nov. 29	Dec. 11
Deer, as above, by hunting party of six or more	6	6	Nov. 29	Dec. 11
Deer, antlerless (See 8 open counties below)*	1	1	Dec. 13	Dec. 15

NO OPEN SEASON—Sharp-tailed Grouse, Doves, Cub Bears and Elk.

FUR-BEARERS—(Traps not to be set or placed before 8 A. M. on any opening date.)

Minks and Skunks	Unlimited		Nov. 10	Jan. 31, 1944
Otters (See 7 open counties below)*		4	Nov. 10	Jan. 31, 1944
Muskrats (By traps only)	Unlimited		Dec. 1	Jan. 31, 1944
Beavers (Traps only, 22 counties)		3	Feb. 15	Feb. 29, 1944
Opossums	Unprotected until Sept. 30, 1944			

SPECIAL COUNTY REGULATIONS

Turkey—No Turkey season in Clarion, Clearfield, Elk, Forest, Jefferson, McKean, Potter, Warren, and Westmoreland Counties.

Raccoon Hunting—

Upper Zone: This zone comprises the counties of Bradford, Cameron, Clinton, Elk, Lycoming, McKean, Potter, Sullivan, Susquehanna, Tioga, and Wayne. Season begins noon opening date.

Lower Zone: This zone comprises the counties not listed in the Upper Zone. Season begins 9 A. M. opening date.

Raccoon Trapping—Counties of Beaver, Cambria, Dauphin, Lancaster, Lawrence, Northampton and Schuylkill closed. Bona fide occupants (citizens) who are cultivating land may trap raccoons thereon in said counties.

Antlerless Deer—May be taken only in the counties of Cameron, Clinton, Lycoming, McKean, Potter, Sullivan, Tioga and Warren. Farm occupants (citizens) who are cultivating land may hunt such deer thereon in said counties without a permit. All others must secure $1.00 permit from Game Commission. See summary issued with license for details. (Non-Residents not Eligible.)

Otters—Trapping only in Lackawanna, Luzerne, Monroe, Pike, Susquehanna, Wayne and Wyoming Counties.

Beavers—Trapping only in Bradford, Butler, Cameron, Carbon, Columbia, Centre, Clearfield, Elk, Jefferson, Lackawanna, Lycoming, Monroe, Montour, Northumberland, Pike, Snyder, Sullivan, Susquehanna, Tioga, Union, Wayne and Wyoming Counties. **Non-Residents may not trap beavers.** One person may set, tend or operate 10 traps only. Trappers required to keep tags above ice or waterline to facilitate identification without disturbing traps. **Pelts must be tagged within ten days after season.** Present them to Protector in District or County where taken.

Snares—May be used without springpoles for taking predators in Clarion, Forest and Warren Counties, December 16 to March 31, 1944.

FEDERAL SEASONS MIGRATORY GAME BIRDS*

	Daily Limits	1943 Open Seasons (Sundays Excepted)
Rails and Gallinules (except Sora and Coot), combined kinds	15	Sept. 1-Nov. 30
Sora	25*	Sept. 1-Nov. 30
Coots	25*	Sept. 25-Dec. 3
Wild Ducks (see Restrictions)*	10*	Sept. 25-Dec. 3
Wild Geese and Brant	2	Sept. 25-Dec. 3
Woodcock	4	Oct. 1-Oct. 15

***RESTRICTIONS**—In the daily duck limit, only 3 Redheads or 3 Buffleheads, or 3 of these species combined, AND ONE (1) WOOD DUCK, may be taken.

POSSESSION LIMITS—Ducks, Geese, Brant and Woodcock, twice the daily bag (except on opening day), but only one (1) Wood Duck; other species, daily bag only. Possession 45 days after season.

DAILY LIMITS—Sora and Coots, 25 of the combined kinds, or of either species.

SHOOTING HOURS—(Eastern War Time). All migratory game birds: From beginning of respective open seasons to October 29, inclusive, one-half hour before sunrise to sunset; Oct. 30, 9 A. M. to 6 P. M.; Nov. 1 to end of respective seasons, 8 A. M. to 6 P. M. (unless sunset occurs earlier, when Federal sunset regulation automatically applies).

EXCEPTION—On the open waters of Lake Erie the Federal one-half hour before sunrise to sunset regulation applies throughout the waterfowl season, except on Oct. 30, when shooting before 9 A. M. is unlawful.

"Smokeless" Powder and Powder Smoke

The smell of powder smoke has always intrigued the American sportsman. It is associated with rolling hills dotted with quail coverts; open spaces where pheasants or prairie chickens thrive; pine-scented woods which nurture the ruffed grouse; cold, crisp mornings in the duck blind; mountain fastnesses wherein big game roams—and many other locales dear to the heart of the gunner.

But hunters are inquisitive persons, and have no hesitancy in asking questions, sometimes to the embarrassment of technicians. Among the many thousands of questions asked the Remington Arms Company, Inc., manufacturers of small arms and ammunition, this one frequently bobs up: "If 'smokeless powder' smokes, why call it 'smokeless powder'?" This is a real poser, but not unanswerable.

The term "smokeless powder," according to Remington Arms Company experts is merely comparative. There is still some smoke in "smokeless" powder, but it is merely a wisp compared with the cloud produced by its predecessor, black powder. Through common usage the term has become universally accepted, but technically it is incorrect.

A recent address by W. E. Witsil, Assistant Manager of Quality at Remington, brought out some historical facts concerning black and "smokeless" powders which will be of interest to rifle, shotgun and pistol fans.

"Until nearly the beginning of the 20th Century," said Mr. Witsil, "the only kind of small arms ammunition propellent used was black powder, a mechanical mixture of charcoal, sulphur and saltpeter.

"Black powder was used by the Chinese centuries ago, but its principal use was for religious observances to drive away the evil spirits. For hundreds of years the Chinese did not appreciate the possibilities of black powder as a blasting explosive or as a propellent in the manufacture of ammunition.

"A combustible known as 'Greek Fire,' and somewhat similar to black powder, was used in incendiary bombs prior to the fall of the Roman Empire. Roger Bacon described black powder in about the year 1260. It was used in firearms at the Battle of Crecy in 1346. The Germans used it as a propellent for missiles from hand-cannon as early as 1361, the rate of fire of these guns being about seven shots in eight hours.

"Black powder, with its lower pressures and slower velocities, carried on until just prior to the 20th Century, when a new material described as 'Smokeless Powder' was being developed by the French and Rusians. About that time, a different type of smokeless powder, called Cordite, was being developed by Alfred Nobel in Great Britain. Through the greater strength of these powders, their cleanliness of burning and comparative absence of smoke, it was possible to reduce the bore of some military arms from about caliber .45 to approximately caliber .30; make use of a jacketed bullet of lighter weight and much higher velocity, and considerably reduce the weight of a soldier's ammunition."—*Remington News Letter.*

Only female *mosquitoes* bite to suck blood; the males get all their nourishment from plant sap.



"Hello Babe! How would you like to come up and see my wood carvings"

Bird Dogs Now Legal in North Dakota

A recent law passed by the North Dakota Legislature will again allow the use of pointers and setters during the hunting season in that state.

The use of such breeds has been illegal in North Dakota since 1915. A movement was afoot for several years to have this ban repealed, but not until this year has the campaign been successful. Now, however, dogs may be trained or run afield from August 15 until April 1 following. This will allow not only North Dakota sportsmen, but non-resident outdoorsmen as well, to use the breeds during the hunting season.

During recent years the grouse population in North Dakota, especially that of the sharp-tail variety, has increased considerably and now exist in exceptionally large numbers in some parts of the state. The Hungarian partridge and ringneck pheasant have also multiplied. In allowing the use of pointers and setters, many dead and wounded birds which otherwise would be lost will now be picked up by the hunter.

The kill of grouse can be controlled through regulation of the season and the bag limit. Recommendations for seasons, bag limits, etc., are made through the Game and Fish Department, of which W. J. Lowe is Commissioner, to the Governor of the state who issues the proclamation.



"Let's get this straight—who's following who?"

Wood Pussy, Or—

CALL HIM WHAT YOU WILL, HE IS STILL THE USEFUL FRIEND OF THE GARDENER AND THE FARMER IN PEACE, THEIR VALUABLE ALLY IN WAR.

Published through the courtesy of the New Jersey Agriculture publication.

"My dears," said a mother skunk to her four little black-and-white hopefuls, "I want you to take this lesson to heart: throughout your lives never forget to be dignified, and leisurely. Your father and I have given you that which will command the respect of all. Go about your business with a quiet and assured dignity; don't hurry, others will!"

"We skunks," the mother went on, "are really a very numerous family. There are thirty-two of us in North America; that is thirty-two different KINDS—men of science say 'species and subspecies,' but 'kinds' will do for you now, my dears. Yes, your cousins are scattered all over this great continent, and all look at first more or less alike, until you begin to examine them carefully; then you will notice that they are different in many ways. Take your Uncle SPILOGALE'S branch of the family, for instance. We always called him "Uncle Spotty" for short, because he was spotted more than we are. His stripes aren't half so regular and broad as ours. There are thirteen different kinds of his branch of the family and they are the smallest of all your relatives in this country. They are of the deserts and plains, though some are found in forests and mountains. They are really very playful and agreeable, though some are so undignified as actually to climb trees—a thing our family never would countenance!

"Now the hog-nosed skunks, on the other hand, are a much more respectable branch of the family. They never climb trees. No, they root in the ground like all self-respecting skunks; and, my dears, they have such be-e-autiful long naked noses—just like little pigs! And how they do root, and dig, and plough through the turf after grubs, and earthworms, and all sorts of delicious little subterranean creatures! Their branch of the family goes by the name CONEPATUS—that's your Cousin Connie's branch you know. All four franches of the CONEPATUS family have a big broad band of white from their crowns to their tails. But their tails can't compare with ours, for they are smaller and not half so bushy!

Save your used cartridges and shells. These can be salvaged for the brass and converted into war materials.

Quantities of used cartridges and shotgun shells should be collected and turned in to the nearest waste material dealer. In this way they can be channeled into war production.

More than three thousand shotgun shells, it is estimated, are required for the average sportsman to become a good shot. The average aerial gunner today becomes a better-than-average wing shot with an expenditure of less than one-third the ammunition and in a very short time.

Planting Trees, Etc.

(Continued from page 15)

possessions by planting them, you will have the joy of providing food for the people and wildlife of your country.

Today in Pittsburgh choice walnut is selling for $300 per M.—8-28-43.

* Russian mulberries furnish food for two months for our wildlife from chipmunks to bears and goldfinches to turkeys. In our south hogs are fattened on them.—J. M. P.

"This past Spring an interesting experiment in the breeding of ringnecks was conducted by Mr. Ross Webb, President of the Erie Pennsylvania Field Trial Association. Last Summer an albino ringneck hen was included in the shipment of birds received by the Erie County Sportsmen's League. This Spring this albino hen was mated with an ordinary ringneck cock bird. Out of the twenty-five eggs laid, eight were a light blue in color. Of the eight eggs, three were set under the white hen, three under a regular hen, and the remaining two were placed under a chicken hen. Out of the eight eggs one chick was hatched—a white one. It lived for about two days then suddenly and for no apparent reason it died. Five of the remaining eggs were fertile and two were not. The white hen was placed on a setting of twelve eggs, ten of which hatched, with nine still living. Another experiment was tried by mating a ringneck cock bird with a guinea. This mating resulted in seven eggs, all of which were fertile, but none hatched. The guinea-fowl would not stay on the nest."

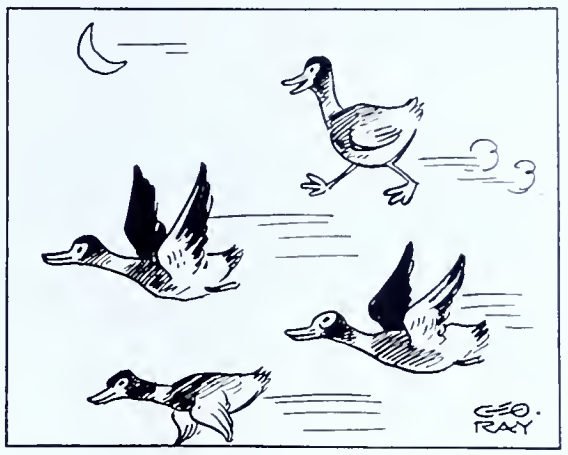
"The 'wildcat' that was seen in Northeast Township either moved or a new cat arrived in Waterford Township. A farmer, who claims to know the difference between regular wildcats and domestic cats, reports seeing a real cat (wild) in that township. This sudden increase in wildcats in Erie County is a bit hard to believe.

"Occasionally deer will swim across Presque Isle Bay from the peninsula to the mainland. This month two doe deer made the swim and landed in the woodyard of the Hammermill Paper Company. After wandering to their hearts' content through both yards they crossed from one yard to the other on a railroad trestle, causing great excitement among the guards and finally disappeared. The next day I read in one of the local newspapers how two city-cruising patrolmen saw two animals contentedly eating their fill in someone's Victory garden. How they got out of the woodyards, which has a seven foot fence, is anybody's guess."—Game Protector Clair W. Dinger, District 2, Division "F".

From 100 pounds of *milkweed seeds,* 21 pounds of oil may be extracted; the oil, chemically similar to soybean oil, can be made edible.

Lightning caused over one-third of the 540 *forest fires* in the National Parks in 1941, more than in any year on record.

A bushel of white *potatoes,* weight 60 pounds, when dehydrated weighs eight pounds.



"It's such a lovely evening I decided to walk!"

Wildlife Conservation...

(Continued from page 24)

smaller aspects of the whole conservation problem. There was a day when a man could dump a dozen rabbits or pheasants in any field, put a few cans of bass fingerlings in his favorite stream, or plant an acre or two of pine trees and call himself a conservationist. Some men felt that if they went out on a "vermin hunt" and killed all of the hawks and owls they saw they were practicing conservation. Right or wrong, no doubt all of these folks were sincere in their motives but today we want to be sure if we are doing the proper thing and doing it in the right way. There is still much that we can learn about our conservation problems, perhaps we haven't even scratched the surface yet, but it does seem that we are on the right track.

About 200,000,000 pounds of *binder twine* are used in the United States annually in harvesting machines; henequen and sisal fiber are normally used; cotton fiber is now replacing sisal needed in ropemaking.

Agricultural uses such as ditching, land clearing, stump blasting and other farm activities consume 5,000,000 pounds of *dynamite* a year.



Think the ladies would know the difference if we said we cleaned off the pheasants feathers on the way home?"

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933

Of "Pennsylvania Game News" published monthly at Harrisburg, Pennsylvania for October, 1943.

State of Pennsylvania } ss.
County of Dauphin }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared D. L. Batcheler, who, having been duly sworn according to law, deposes and says that he is in charge of circulation of the "Pennsylvania Game News" and that the following is to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, Commonwealth of Pennsylvania, Pennsylvania Game Commission, Harrisburg, Pennsylvania.

Editor, Leo A. Luttringer, Jr., Harrisburg, Pennsylvania.

Managing Editor, W. L. Drake.

Business Managers, D. L. Batcheler, Harrisburg, Pennsylvania.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other uninincorporated concern, its name and address, as well as those of each individual member, must be given.)

Commonwealth of Pennsylvania, Pennsylvania Game Commission, Harrisburg, Pennsylvania.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.)

None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the twelve months preceding the date shown above is 25,000. (This information is required from daily publications only.)

D. L. Batcheler.

Sworn to and subscribed before me this 5th day of October, 1943.

Seal Lucille A. Stroup.

(My commission expires Mar. 5, 1947.)

Berries should not be hulled, crushed, sliced or juiced until just before serving or their vitamin C will be lost.

Over 162,000 deer and elk *hides* were sold to leather industries in the United States during the past season, the contribution of sportsmen.

Nearly 22,000,000 acres of land are now included in national *parks* and national monuments under the supervision of the National Park Service.

The Muskrat

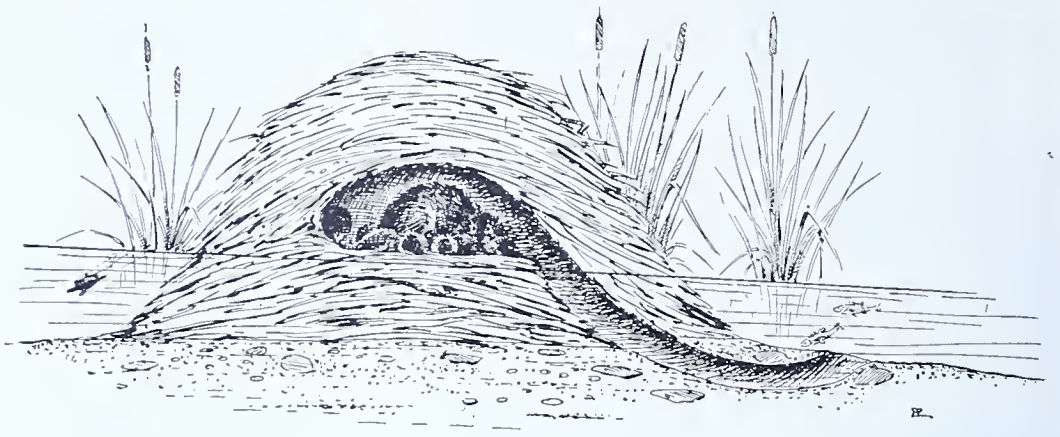
(Continued from page 12)

marshes they build houses. These are dome-like structures seven or eight feet in diamter and about four or more feet in height, built of stalks, roots and remains of plants. The site selected for the house is generally some fire foundation such as an old stump or an old brush pile. After the house is built, the nest chamber is dug and gnawed out of the solid pile of material and lined with fine grasses which are, at all times, kept clean. Building operations are carried on throughout the year but are particularly noticeable at the time of high water when the animals must work fast to keep their beds above this level. In the Fall of the year most houses are built by young animals.

Several birds of prey are said to feed to some extent upon muskrats. The Great Horned Owl and the Barred Owl are possibly the worst, but the Long-eared Owl and the Barn Owl do feed to a great extent upon the young. Of the hawks, the Marsh and Red-tails have the worst reputation as muskrat destroyers. Turkey Vultures and Crows are scavengers, therefore their destruction is questionable. Red foxes are possibly one of the worst of all their enemies. Their actions are similar to those of the raccoon, breaking down houses and feeding mostly on the young, but quite often also taking adults. The fox stalks a large amount of its prey when they are in the grasses or feeding in shallow waters. The weasel preys almost entirely upon the young, and it is very doubtful if a weasel could successfully attack and kill a mature muskrat. Of all the above mentioned predators none is as destructive as the mink. It is well adapted to the water, can enter without notice, and can kill adults as well as young. The domestic dog and house cat, when on the loose, must also be considered.

Muskrats were thought to be remarkably free of disease and parasite infections by the early settlers and naturalists but recent studies have proved that this is not true. Some of the diseases are leukemia, septicemia, lobar pneumonia, inflamed eyes, pyemia, streptococcus, tuberculosis, coccidiosis, tularemia, and a skin ailment of fungous origin. Coccidiosis, tularemia, and abscesses are fatal to muskrats living in a wild state but the former shows some possibility of human control. Some 65 parasites have thus far been found in the muskrat. Little is known of the relationship of many of these parasites and the host species.

Muskrats often wander over fields and along highways far from water. This occurs late in the Fall, early in the Spring, or during summer drought. The causes are not understood although the Spring movement is generally attributed to the beginning of the mating season. When encountered away from water, the animals are sometimes very ferocious and have been known to attack people, biting them severely.



Section of house.

In addition to grain fields, gardens and rice beds, the muskrat does considerable damage in parks and private grounds by eating water lillies and lotus. It is destructive in a water cress pond because it digs holes through the embankment, thus allowing drainage. It has also caused damage by breaking dikes and dams thereby flooding tidal meadows, lowland summer resorts and mine shafts. If the trapper didn't control the muskrat the damage would be tremendous.

In some sections it would be foolish to give this animal any more protection but in other sections he should be given a chance. In the past everybody has felt that it needed very little protection, which is possibly true, but the fur industry has grown, the market prices are usually high, and the muskrat is naturally much sought after. And if it continues to serve as an imitation of more furs, prices will naturally go higher and more trappers will turn to this popular animal as their winter livelihood.

There are hundreds of small marshes or sections of small streams that could be transformed into good muskrat areas. Land management has so far played a comparatively small part in encouraging the natural propagation of the muskrat. Of all land purchased for the purpose of protecting game, it has gotten little or no consideration. Many areas could be made into good marshes simply by damming and planting aquatic plants. The maintenance of these areas would be relatively inexpensive but the results could be great.

In established marshes a land manager can do several things to encourage a good population. He may plant field corn along or near the area and place food platforms in sheltered places where muskrats may take food to eat. Sometimes the animals build their own platforms for this purpose. The construction of several high brush piles in a swamp or marsh will save a lot of lives during the Spring when floods are most likely to occur. A permanent water supply is necessary and this may often be furnished by ditching springs in the proper direction. Little may be done in protecting this valuable fur-bearer against predators. Possibly the best method is to plant an adequate supply of food in the water. Protection by law is very necessary and should be rigidly enforced. At no time should muskrats be trapped later than January 31st. As previously mentioned, a large number of females will be taken after January unless otherwise protected.

A refuge for muskrats would be something new but the writer does not think it impossible. For about every six miles of stream, have a half a mile closed to trapping. This area should be selected from strong and regularly well populated environment where Spring survival is likely to be high. The surplus stock will flow out each Spring and restock, with breeders, the areas both up and down stream. This same refuge system could be utilized for the protection of the animals on marshes.

Not only does the muskrat furnish a large revenue to the trapper from the sale of fur but in many localities the carcasses are also sold for food. In Baltimore, the market muskrats are on sale from the middle of December to the middle of March. They are received from Commission Houses, mostly from the lower Chesapeake, but many are also shipped from Louisiana and arrive in excellent condition. The wholesale price is usually about ten cents and the retail price per carcass is generally around 20 or 25 cents. The average weight of a carcass is about 1¼ pounds.

A recent discovery has shown that the glands are valuable in manufacturing perfume. Just how important this value may become is still unknown.

Some people believe the muskrat cannot be exterminated. Those same kinds of people lived during the days of the Passenger Pigeon.

While we still have muskrats in goodly numbers, why not give them some well deserved management and plan for their future?



Muskrat swimming with a mouthful of grass.

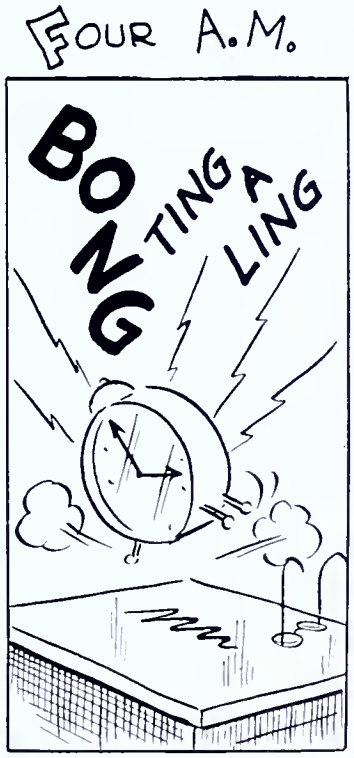
THE FAMILY OF A. HUNTER, ESQUIRE—EPISODE NO. 32





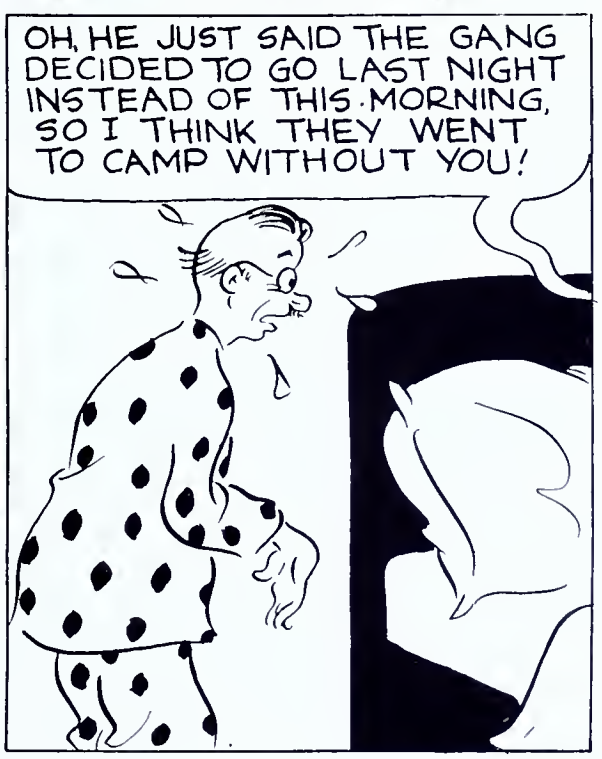


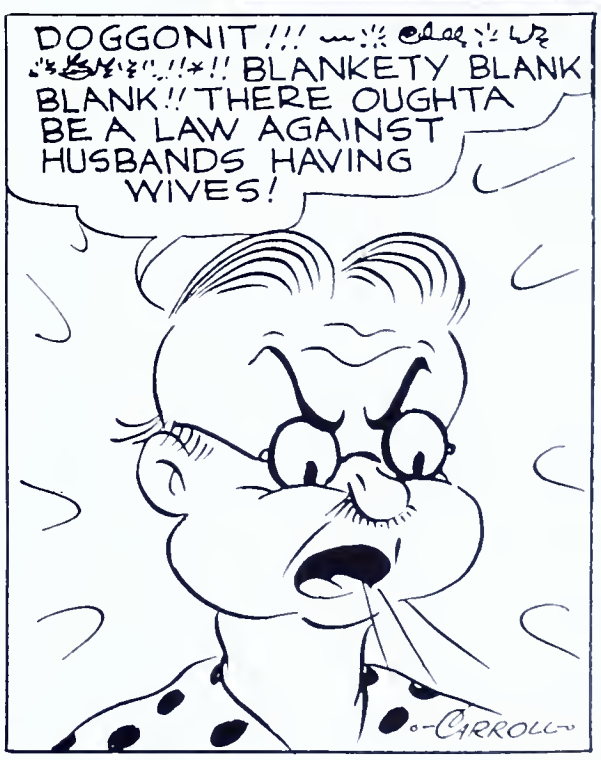










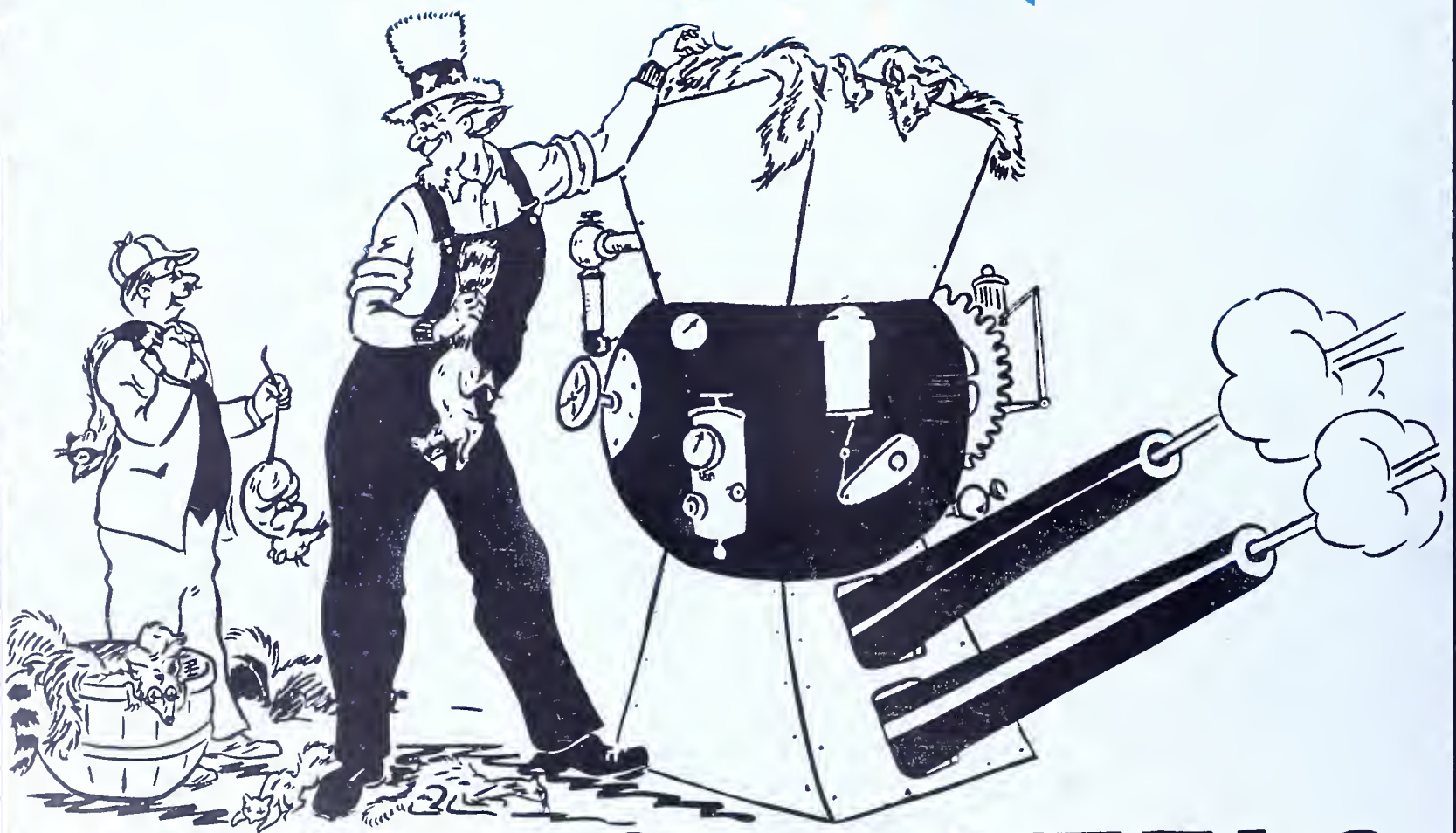


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EDITORIAL

DECEMBER, 1943

IN THIS ISSUE

Killing Two Birds With One Stone
By Robert Lamberton

★

Our Deer—Past, Present and Future
By Roger M. Latham

★

Fur Trapping Methods
By S. V. Sedlak

★

Wildlife Conservation—Its Past, Present and Future
By William Grimm

★

Practical Application of Mammalian Population Studies
By Victor H. Cahalane

★

Proper Approach to a Duck Dinner
By Fred Stone

★

Waltonians Press Post-War Conservation
By Johnny Mock

★

New Types of Pens for Bobwhite Quail
By Ralph B. Nestler and Allan T. Studholme

★

Calling Mr. Average Deer Hunter
By F. J. Floss

★

Rabbit-Track Moses and the Preacher
By Jack Anderson

★

Don't You Call Me Polecat
By Pvt. Robert D. Gilmore

★

An Old Stub
By Robert M. Stabler

★

Current Topics

★

Cover by Jacob Bates Abbott

Merry Xmas



and a

Happy New Year

Let us Not Forget

The back cover page this month is our method, unique though nonetheless sincere, of conveying our Christmas Greetings to the men and women who are serving in the armed and other forces of our Country. True, it is not very much, but it is all we can offer under the circumstances. We know, and you know, that words for the most part mean very little unless they are backed up by deeds, by sacrifice.

All of us back home are, by deed and sacrifice according to our individual capabilities, trying to let our service men and women know that we are behind them every step of the journey to victory. Sometimes, as in everything else, we no doubt fall short of the mark. We forget the more personal things, such as writing letters, sending cards, yes even providing some magazine or other literature which, if we gave it a second thought, would enable some interested man or woman to keep in touch with the things he or she is much concerned about back in their own choice sector of the good old U. S. A.

Lots of service men and service women are interested in sports of one kind or another. Many enjoyed going afield with gun and dog before they donned the uniform of their country. Many of them no doubt looked with longing at the calendar when the days started rolling around to November this year, and in retrospect envisioned many happy days they spent behind a beagle, setter or pointer when old Jack Frost started to paint the landscape with myriads of colors, when the corn was in shock, and the pumpkins turned a golden yellow.

These reminiscences need not be mere recollections; they can be made real. Would that we could send this little magazine gratuitously to every sportsman or sportswoman in the service who ever toted a gun in the good old Keystone State. But that is out of the question. We can, however, without being the least bit mercenary, suggest that you as a regular reader of GAME NEWS, subscribe for someone you know who will appreciate hearing about Penn's woods and fields and what is being done to keep a supply of game sufficient for them to enjoy the chase to the full when they return. We shall try to do our part. Won't you try to help by remembering someone you know?

—Coupon available on page 32



Snowy Owl

Photo by Bradford Washburn, courtesy New England Naturalist.

Killing Two Birds With One Stone

*By Robert Lamberton**

THIS YEAR the Commission will launch another energetic State-wide campaign to trap rabbits, pheasants and other small game from sections where no hunting is permitted and release them in areas within the same county where public shooting is allowed. Sportsmen who have been familiar with the game trapping and transfer program since it was first undertaken on a large scale in 1937, know full well the tremendous benefits to be derived from it. Native wild rabbits for instance are preferable to imported stock from other States, because they acclimate themselves more readily to local environments when released, and little if any mortality occurs in handling them. And, after all, no one has any way of determining just how many imported animals survive after release. It goes without saying that they are faced with the tremendous problem of adjusting themselves to a new environment usually at a time of year when weather conditions are not very favorable, and when four-footed and winged predators are on the alert for unsuspecting prey.

The Commission has set its goal at 75,000 cottontails and has instructed its field offcers to organize their districts as completely as possible in order that not only the gunners, but everybody will derive the most benefit from the program. Next year probably more Victory gardens will be planted than were planted this year, and the same problem of keeping Bre'r Rabbit and his family out of them will probably be even more acute; consequently it behooves all public spirited citizens to endorse the Commission's efforts even though not all of them can take an active part in the project.

Game Protectors have been asked to contact their deputies, representatives of the Boy Scouts and other youth groups, sportsmen's associations, etc., for the purpose of securing as many trapping agents as possible this winter. Last year in Allegheny County alone over 5,000 rabbits were taken, but that number may be even doubled or tripled this year because of the splendid organization and close-knit cooperation between the District Game Protector, the Allegheny County Sportsmen's League and other assisting groups and individuals.

Last winter John M. Phillips, former Game Commissioner of Pittsburgh, who wrote the interesting article on planting trees that appeared in the November issue, offered a beautiful gold Rabbit Trapping Trophy Cup to the troop of Boy Scouts in Allegheny County trapping the most rabbits. It was awarded to Troop No. 227 of Brookline, at the annual meeting of the Allegheny County Council of Boy Scouts, and then was formally presented to the troop by Mr. Phillips himself on the occasion of its 17th Anniversary Meeting in June.

Later the troop's Scoutmaster, James A. Cowan, and Ralph Silverthorn, age 13, and Charles Stengel, age 17, two of the champion rabbit trapping Scouts, were interviewed over KDKA by Harris Breth, sports writer and news commentator of the *Pittsburgh Sun Telegraph*.

Harris told a good story about one young scout's first experience trapping rabbits. The lad set a trap in a good place, came back the next day, and there was his first trap sprung. He opened it and took out the prize, and it naturally kicked and struggled so he just put it under his coat and brought it home. He was mighty proud of it and burst into the living room of his home and excitedly brought it forth to show his mother. "Here's my first rabbit, mother," he cried, "my first rabbit!" "But I never thought they looked like this!" The—er—rabbit slipped to the floor, a lovely black and white striped "rabbit," raised its long bushy tail, and promptly perfumed the furniture and the entire house.

There are all sorts of experiences to be gained trapping wildlife, and even though not always pleasant ones, they are nonetheless instructive and educational and the boys all get a kick out of it. This year the Allegheny County Sportsmen's League is working out a plan to trap in a great big way. They figure the Girl Scouts, the Cub Scouts, and other youth organizations will get the same thrills in trapping as the Boy Scouts do, and are asking for their cooperation, too.

Sportsmen's groups in other counties are doing likewise. So let's all get behind the program. Don't be like some sentimental individuals who look upon it as merely a means to acquire that many more bunnies for the hunter to shoot. That's not the point. Bre'r Rabbit and his tribe have been making a nuisance of themselves in a great many places and they have to be controlled. After all he is 100% vegetarian for one thing, and for another he multiplies faster than any wild animal except mice. Mother nature made it easy for rabbits to live and multiply in order to feed some of her other children, and many of them, too many in fact, have found such easy living or "easy pickin's" inside cities and towns. The surplus bunnies in the rural areas are harvested both by hunters and predators, but in the cities and towns where they can't be shot and where few winged or four-footed predators ever find their way, the only logical and most economical way to keep them under control is to live trap and release them.

In the past some criticism was made of the trapping program by landowners who claimed that rabbits were being removed from towns and cities and released on farms which were already

(Continued on page 29)

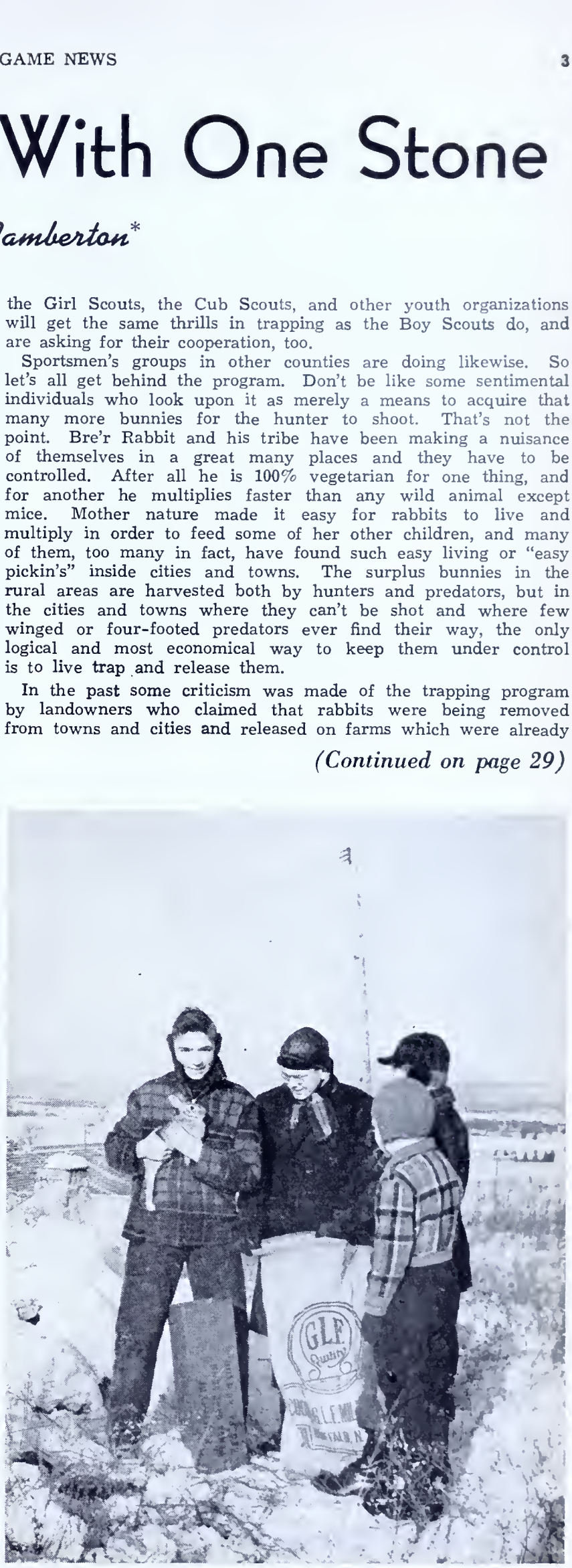


Photo by John B. Miller

Lewisburg Scouts and admirers tending their traps in College Park.

* Vice-President, Pennsylvania Game Commission.

OUR DEER—Past, Present and Future



Under these over-browsed conditions. the pregnant does are barely able to survive the winter, and one embryo may be resorbed.

THE esthetic value of the graceful whitetailed deer in our forests adds immeasurably to the recreational enjoyment of countless thousands who flock each year to the mountains for their summer vacations. Great numbers of out of state tourists are attracted to Pennsylvania by its magnificent mountain scenery and abundance of wildlife, particularly deer.

To the two hundred thousand or more resident and non-resident deer hunters, the annual trip to the big woods in quest of this wary, elusive animal represents the culmination of months of planning and dreaming. A great many of these enthusiastic nimrods spend their entire vacation in camp and derive genuine and lasting pleasure from their two weeks of hunting.

Thus, we have an undisputed beneficial effect from our sizeable deer herd, both from the esthetic and recreational aspects, which cannot very well be evaluated in dollars and cents, but which, nevertheless, represents incalculable enjoyable hours resulting in an inestimable gain through mental relaxation and physical rejuvenation.

That this magnificent herd exists today in the forests of Pennsylvania, where not many years back deer were nearly extirpated, is a tribute to sound scientific management. If through management, a herd, numbering into the hundreds of thousands can be built from a mere handful of breeding stock, then this same herd should be managed with the same sound and effective principles after it has reached a maximum density.

There can be no question but that there is a limit to the carrying capacity of any range, for any species of bird or mammal. Food is the limiting factor for most species and very definitely for the whitetailed deer in Pennsylvania. Thus, the problem presented to the game manager is to determine the amount of available food upon the range, and then regulate the number of deer to a point compatible with the existing food supply. The Game Commission has already determined the browse conditions for the entire state and has shown the results of this survey on a state map. (Gerstell-1938) In its open seasons for the past several years the Commission has been attempting to reduce the herd to more nearly conform with the depleted browse conditions.

This attempted reduction, a basically sound game management policy, has met with considerable criticism and opposition from a great many sportsmen throughout the state. It is felt that much of this opposition came from persons not understanding the causes giving rise to the need for herd reduction, the city or town hunter who rarely spends more than two weeks of the entire year in the deer woods, and this at the wrong season to see the damaging results of an over-abundant deer population.

Due to its density of population and state-wide distribution, deer, even prior to 1930, were a menace in some instances and a nuisance in many others. Probably the greatest material loss results from the deleterious effect of the animals upon forest reproduction. Normally a forest contains all stages of growth from the tiny seedlings to the largest trees, these large trees representing the maximum age of the forest. Where there is a dense forest stand of pole stage or larger, the shade from these trees prevents any amount of forest floor reproduction, but in innumerable places where the stand is too thin for good forestry management, there is insufficient reproduction, because the deer eat most of the valuable tree and shrub sprouts as fast as they come through the surface of the ground.

There are numerous small sawmills operating throughout the mountains of Pennsylvania and after they have made their cuttings of fifty to five hundred acres, the deer immediately move in and prevent the natural seedling and stump sprout succession, often leaving a forest desert, producing little but bracken and fern or in some instances the non-wood producing laurel and scrub oak. If this small scale cutting continues over a period of years and the deer continue to kill the natural succession, there would some day be thousands of acres of potential forest land producing nothing of commercial value. Where deer are too numerous the small scale cutting operations are more dangerous than large scale lumbering because they tend to concentrate the deer upon small areas, where otherwise the deer would remain nearly stable and would be much less destructive to the new growth.

For proper forestry management in our state, saw timber should be cut every forty to eighty years for most hardwood species. This means then, that the deer food supply will reach its maximum and minimum production within this forty to eighty year period and consequently the size of the deer herd will be directly controlled by the age of the forest. Thus, under present conditions in Pennsylvania we must regard the whitetailed deer as a fluctuating species.

At forty to sixty years of age a forest will produce a minimum quantity of browse available to deer. It will be during this period, unless the herd is drastically reduced through management (hunting) or starvation, that the agriculturist will suffer damage because the deer will forage upon the only available food supply, the nearby agricultural crops. We are now in the middle stages of this period.

Then as the large scale lumbering operations commence the food supply will become almost immediately optimum again in these cut areas, and when the state is once more dotted with this young growth, the herd will commence to increase with great rapidity. Through the early 1900's until about 1925 we were passing through this optimum food conditions phase of the cycle and our herd did increase by leaps and bounds, primarily through the protection of the anterless deer and other protective measures. As our forests entered the pole stage in the late 1920's and the available browse supply began to drop off sharply, our herd was still maintained at this former high level. Immediately complications arose. Agricultural crop damage became pronounced; the tree planting program became an impossibility; the deer began starving to death by the thousands over the winters, and there was a marked reduction in body and antler size of the deer. Even with these prognostic indications the sportsmen of Pennsylvania were opposed to herd

By Roger M. Latham

Photos Div. Propagation and Research



Once again a hunter can be proud of his trophy of the hunt.

reduction. However, through the courageous efforts of the Game Commission several anterless seasons have been declared, and finally with the 1940 season some very encouraging results have been achieved. It is to be hoped that the herd can and will be managed in the future at a density compatible with the food supply without the criticism and opposition that has marred this particular phase of game management in the past fifteen years.

There is a probability that at some future time the timber crop of the state will mature in different areas at different times, so that the extent of the fluctuation of the deer population will be materially reduced and for the state as a whole may be maintained at a nearly constant level. This level, however, would be considerably below the peak reached in the 1930's.

It has been proven by field study that deer will concentrate in the sheltered valleys during the late winter months and will not venture from these even though they may die of malnutrition, while a comparative abundance of food may exist on the mountain tops not a mile away. Considering this fact it would appear that our true deer food problem is extant almost entirely within the confines of these wintering valleys. Yet any attempt to produce a natural supply of browse in these yards through cutting is at best only temporary and after the stump sprouts have been eaten (beneficial for only one winter) then the situation is worse than before because there no longer exists a means to produce even temporary relief. Planting has been attempted, nearly continuously for several years, but this has been from necessity almost completely abandoned. Small deciduous seedlings are killed within a very short period and conifer seedlings or even trees up to five feet in height rarely live over the first winter.

Second in importance to the detrimental effects upon the forests is agricultural crop damage. Farmers residing upon good soil and those living upon marginal land all suffer alike from the depredations of deer. The small land owner, living back upon the poorer soil, feels this lose greatly. Even under the most favorable conditions, such a farmer expects to make no more than a meager living. Any amount of crop damage to this man means that he can no longer support himself and his family, and he either has the choice of moving to another locality, which he can ill-afford to do, or to live in the same house and discontinue farming but earn a livelihood by working at some other occupation. Any man resents very deeply giving up a piece of land that perhaps was farmed by his father and grandfather before him, simply because through unjust damage from a wild animal he can no longer "make a living" from the soil. In making field studies of deer damage, the investigator will often have a farmer's wife burst into tears while telling of their struggle to live—hardships resulting from crop loss due to excessive deer damage.



The pole stage—typical of much of Pennsylvania's forest and offering little food for the deer.

Buckwheat, always the staple crop on the poorer soil and land subject to cool mountain temperatures, could no longer be raised on these farms in the deer country as by the time the grain was ready for cutting, the deer had left nothing standing but the bare stalks. To lose from five to ten acres of grain in this manner is a decided blow. Large patches of winter wheat were trampled in the fall and spring when the fields were soft and muddy, and as a consequence the yield was reduced. It was not uncommon to see twenty to forty deer in one field of wheat or buckwheat in the late evening. These farmers had the privilege of shooting deer when they were destroying their crops, but many did not possess firearms, many were poor marksmen, and still others were opposed to this method of control from a

(Continued on page 26)



Photo by the Author

Pat, the trapper, looked back into the woods that netted him three foxes and then he was homeward bound.

Fur Trapping Methods

By S. V. Sedlak

THE cool, crisp days that graced the forest country and engendered the soul of the green trapper only a few weeks ago have given way to the march of time. With the approach of cold weather the character of the woodland changes. Now the forests have browned, frosts are penetrating deeper and deeper into the earth, snows are becoming more frequent and the streams and lakes are fringing with ice; and still later on the furies of the wintry season will become increasingly more apparent and all these atmospheric transformations will tend to create conditions that will impede and disrupt trapping efficiency.

The fellow who had the desire to trap should have a nice bunch of raw furs on his stretchers by this time if he had applied himself to the game in the right spirit. The skins of skunks, opposums, weasels, foxes, raccoons, minks and wildcats are at their very best right now. They are in the pink of primeness and worth their maximum in price, and the trapper who appreciates the importance of that fact will be active in spite of all drawbacks.

With the fur season in full swing now, and a variety of flesh meats available, the trapper should utilize everything to the best of advantage. The carcasses of skunks make excellent fox bait. First, make certain that all fat is removed and packed in clean containers, and then cut the carcass up in small pieces. It may be used whole, however, or in halves or in quarters and used in connection with dirt sets as mentioned previously. The flesh of raccoons makes excellent food for your own use. It may also be used as bait for foxes and all of the fat can be salvaged. Weasel and mink carcasses cut up in pieces can be used with good results to attract more of their own kind as well as foxes. Muskrat flesh should never be thrown away for besides being fit for man's own table, it is one of the very best baits for fox, raccoon, mink, weasel, oppossum, skunk and wildcat sets. Oppossum fats are salvaged also, and while some people regard the flesh fit for human human consumption many trappers are inclined to think differently because it is a known fact that Pennsylvania oppossums feed quite extensively on carrion and, at least in a few known instances, people who had eaten this flesh had become sick as a result.

Winter weather, with its many and diverse uncertainties, naturally reduces the ardor of the trapper but it puts him up against the test that tells whether he has the stuff that it takes. The work will become tougher now, travel will become more difficult, and the catches will fall off steadily, to be sure. In the day time it may warm up a bit and a trap may be set easily enough with keen anticipation that it will make a catch, but an hour after sunset the trap may freeze up and upset many a painstaking effort. With snow on the ground the trapper leaves a trail behind that will be so much easier to pick up by any trapline meddler, and the man who has the heart to continue to pursue the crafty little fur-bearers during the snow periods will have to use all the ingenuity that he can possibly muster to baffle or defeat his own worst nuisance and enemy—Johnny Sneakum, as commonly referred to, alias the trap and fur thief.

Trap-lifting Menace

In trapping for fur there is no telling when the wrong fellow may come along and help himself to a bunch of traps or an undeserved pelt of a valuable animal. The wise trapper must figure out for himself just how to outwit this common enemy. If you have trapped and have not already learned that traps and furs are hunted for and stolen, then consider yourself fortunate; but, be prepared to learn more as time advances, especially now when the muskrat season gets under way. Your skunk and other sets were just a little harder to locate by sneakers because in trapping for land animals the traps are distributed widely, one here and one or two somewhere else, but in trapping for muskrats, all due to the fact they colonize, traps are set close together and in places that are well defined and easily detected. Go out to set a dozen traps for muskrats and you may have them all stolen and a few of the little fur-bearers besides by the time you get out on the following morning.

Trap pilfering is a major drawback and it gives many a headache to the conscientious trapper. This is particularly true during the muskrat season. There are ways to counteract the situation from time to time. It takes sacrifice, patience and time to carry the plan through but it pays in the long run. The best method to use in dealing with an offender is to lay for him and catch him red-handed on his job. When you have the goods on him find out who he is and, unless you know him personally, make sure he doesn't pull the wool over your eyes. If he gets boisterous, you must go him one better. He may even attempt to lick you, but you've got to give it back and then some. He may talk nice-like and give "good, excusable" alibis, but don't believe a word of that; mark him down as a thief and proceed to have him punished. Report him to a game protector promptly; give the circumstances of the case and let the evidence you have against him decide whether there was a wrong committed.

There are some hard and cruel experiences that the trapper is forced to put

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MR. TRAPPER

Don't forget to save the fats from the animals you trap. Even the carcasses are valuable. Uncle Sam is going to need more and more explosives. He'll appreciate your help.

up with. They are unpleasant matters, they could be avoided; but, as long as there are people on this earth there will be some among them who will persist in doing wrong. Trap lifting and fur stealing account for more discouragement than any thing else. Every sincere trapper should devote some of his time to corrective measures when necessary, to thwart this, the worst of all trapline evils.

If you are a trapper your sense of justice tells you what is right and what is wrong. Regular trappers, those who follow the game year after year, are men of a truly clean-cut character. They know the meaning of fair play and they do not molest or steal the traps or the fur of another trapper. On the other hand, if you are the parent of a boy who traps, do you ever ask him whether he conducts himself in the right manner? Do you ever put the question before him—son, now look here, are you sure you don't molest the traps that don't belong to you; are you certain you haven't stolen this or that trap, or that fur? It is your duty to see that your boy is brought up right. It is your obligation to see to it that your wayward son is straightened up if he has taken recourse to pilfering tactics. Parental care and good guidance may save you from getting into an embarrassing position. It can protect you as well as your son from getting into trouble.

Frost-resistant Dirt Sets

The question of where to make dirt sets with adverse weather in store should be of particular interest. Any type of ordinary set is apt to freeze up and be ineffective from this time on. However, good results may still be had if one uses a little foresight in connection with the construction of the dirt set. For instance, traps set under evergreen trees will be somewhat shielded from the disrupting power of frost as well as from excessive snow cover. Another way to by-pass the frost temporarily is to see to it that the dirt used to cover the trap is dry—bone dry. Still another way that can be worked to advantage is to make the trap bed deeper, longer and wider, then place a foundation of small sticks or stones into the bed for the trap to rest on, and fit more small sticks or stones completely around the trap and in such a way so that no part of the trap comes in direct contact with the earth. Then place a piece of waxed paper over the top and cover it lightly with whatever is required to finish the job naturally—dirt, or a combination of dirt with dead grass or leaves. Some trappers line the trap bed with waxed paper, set the trap within that, then place another piece of the paper over the top of the trap and smooth the set out with natural finishing material. Overhanging stone cliffs offer trap-setting opportunities also, and the trapper should survey them for their practicable possibilities. Overhanging banks along the rivers and creeks, uprooted trees, natural caves and crevices in the earth are a few more of the better places to resort to when planning continuous trapping operations.



Photo by the Author

Trapper resetting a trap for mink in a frost-resistant warm spring. Note the mink on the limb of an alder.

Water Sets

During freezing temperatures the problems of water trapping become quite baffling at times. But there are places where water will not freeze readily and will stay open well enough to make water trapping worthwhile. It is up to the individual trapper to find those places and then make the best possible use of them. The very best of these spots are the spring waters, and right up at the head where they emerge out of the earth they offer ideal cold weather locations for pinching the feet of foxes, muskrats and minks.

One may find good, usable set locations around sink holes, logs, stumps, rock crags, and under heaps of debris where water stays open while it is frozen everywhere else. About the spillways of concrete and old splash dams there are bound to be some good open spots. These exposed water areas are used by muskrats and minks while other ordinarily used places are paralyzed with wintry grip.

Under-ice sets are frequently resorted to by muskrat trappers. Holes are chopped through the ice and traps are set at entrances to muskrat houses and underground dens. When water level has subsided a few inches under the ice the water furbearers do a considerable amount of moving about under ice and good judgment in selecting set locations will help to bring additional pelts to the industrious trapper.

When it gets so cold that fingers freeze to the steel trap then it is really cold, and that occurs about the time the temperature gets down to the zero mark. There isn't much fun in trapping in zero weather and even the hardiest of the trappers are willing to admit that it's time to take it easy.

Inferiority of Furs

Furs, like a lot of other products that come out of the woods or off the farms, are graded by their relative amount of primeness. They are not ripe enough, they are ripe, or they are over-ripe. The fur farmer, for example, takes care to see to it that his animals are pelted at their peak of perfection; he uses good judgment. The responsibility of the trapper is likened to that of the wise farmer, and when the season closes, trapping ceases; and as in the case of unprotected fur-bearing animal life, when the fur commences to depreciate in quality it is time to quit trapping. The taking season on most of our fur-bearers ends on the last day of January but foxes, weasels, oppossums and wildcats are not protected and may be hunted or trapped at any time. However, the fact is the fur of even these animals deteriorates after the middle of February and the grades run as faded, rubbed, springy and otherwise inferior and it is unwise to continue to pursue the land fur-bearers after that period.



Photo by the Author

When it thaws in the winter the animals move around a lot and the trapper takes advantage of this.

Storage of Equipment

All traps should be gathered up or sprung at the close of trapping. If it is impossible to dislodge an occasional trap, such as may be frozen too tightly in ice or earth, then every effort should be made to place a heavy article, a stone or something similar, over the trap so as to render it ineffective until it can be removed. All traps and other trapping supplies should be cleaned up and put away in order until the next trapping season.

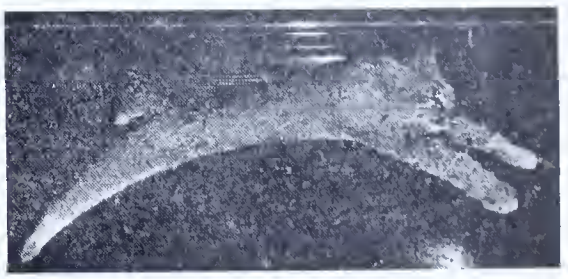


Photo Pittsburgh Press Photographer

Wildcat killed by Ralph Porreca, Vandergrift, Cameron County on December 4, 1941. He was ready to call it a day when he spied the animal creeping along the ground very slowly.

Wildlife Conservation—Its Past, Present and Future

(Continued from last month)



Photo U. S. Soil Conservation Service

Silting in check-row corn field following 5.6″ rainfall.

THE NATIVE vegetation which originally covered the land served to protect the soil from rapid erosion. In Pennsylvania this was largely forest trees but over large areas of the North American continent rank growths of grasses served as a binder for the soil and prevented it from being carried away by water or by the wind. It is, of course, quite natural for all of the higher land masses to erode but this natural erosion usually takes place very, very slowly. Geologists tell us that the natural tendency is for the land to be worn down to a nearly level plain, even to sea level. In the earth's past history great mountain masses have been worn away by the action of the elements but this is accomplished only over a very long period of many millions of years. It is much too slow a process to be at all evidenced in a normal lifetime of man. Very rapid erosion results, however, when the protective cover of vegetation is removed and this rapid erosion has destroyed much good land in a comparatively few years.

Soil is derived from the underlying layers of rock as a result of the weathering, or the decomposition, of the rock material. Soils may be moved long distances from the parent rock material through such agencies as water, wind, and glaciers. If the soil particles are large it is called *sand* and if they are very, very small it is known as *clay*. Most soils consist of a mixture of both and are known as *loam*. *A sandy loam* is a soil which has more sand than clay and a *clay loam* one which has more clay in it than sand. The roots of plants penetrate the soil layer and help to bind the soil particles and thus keep them from being washed or blown away. When the living plants and animals die their remains get into the soil where they slowly decompose and form *humus*. You are all no doubt familiar with the dark-colored layer of decayed and decaying, leaves, branches, and trunks which forms beneath the trees in the forest. This humus in the soil both enriches it and greatly increases its capacity to absorb and retain water. It is what enables the soil to soak up water much like it is soaked up by a sponge. The leafy canopy formed by the vegetation helps to protect the soil from hard rains and, to a considerable extent, it retards drying out of the soil during those periods when there is little or no rainfall.

What happens to the soil when the vegetation is destroyed. No doubt you have stood on a bridge over a small stream, or along the stream bank, after a hard summer shower and watched the swirling, muddy waters roll by. What you had seen was soil, the valuable top soil, on its way from the land toward the ocean. Every year the rivers of America carry away hundreds of thousands of tons of soil and dump it out in the ocean where it is lost forever as far as man is concerned. Some of it is deposited along the way as silt. This silt often destroys valuable beds of aquatic vegetation and interferes with the reproduction of fish and other aquatic animals. It also creates quite a problem by filling in reservoirs and the pools behind dams along the streams. All of us have noticed the gullies which are cut by the water in unprotected soil and in cultivated fields. Gullies are the most obvious aspects of erosion. It is not so easy to detect the work of sheet erosion which constantly robs a thin film of soil from the land surface.

Streams in forested areas usually remain quite clear, even after the heaviest rains, because the forest cover prevents the soil from being washed away. The rain water which falls in the forest is absorbed much more quickly and more completely by the sponge-like, humus-laden soil. A great deal of the water slowly percolates down into the sub-soil, to the reservoir of ground water, and is slowly fed into the springs and streams. Forests, and other areas well covered with vegetation, regulate the run-off of water from the land, retarding it during wet periods and releasing it slowly over an extended period of time. The run-off of water from bare ground is very rapid and with each heavy rain considerable soil is washed away. This results in frequent floods, higher flood crests, and damage from silting. It is also to be noted that bare ground absorbs and stores very little water by comparison and during extended periods of dry weather the springs and streams may completely cease to flow, thus intensifing the ill effects of drought.

Thousands upon thousands of acres of good, fertile farm land have been more or less completely ruined by the ravages of erosion. It has been going on for generations but only within comparatively recent years have we awakened to fact and realized that its continuation amounts to economic ruin. *Soil conservation* is a new science in American agriculture and we are hearing a great deal about it today. Our farmers are being shown how to save their soil; how to prevent its being stolen by wind and by water. In many cases this must mean a radical change in age-old agricultural practices. It means that lands too steep, or too poor, for profitable farming be put into some sort of soil-building permanent cover such as forest or pasture. It means the adoption of crop rotation, contour plowing, strip cropping, and other practices designed to save and to build up the soil. The basic principle behind it all is to retard the run-off of water, and thus lessen its power to carry away the soil, and to retain the water upon the land where it will be able to do the most good.

Wildlife will benefit immensely through the soil conservation program, principally because in order to save the soil we must

restore the vegetation and that means the restoration of wildlife habitat. The two go hand in hand. Gullies are being controlled by the means of dams and the planting of permanent vegetation such as trees and shrubs. In a great many cases it has been necessary to restore lakes, ponds, and marshes, which had been previously and unwisely drained, and to create new ones in order to retain the water and establish higher water tables for agricultural crops. Conservation is very largely a matter of conserving, or restoring, nature as a whole —forests, farms, fish, birds, and mammals— and the very foundation of any real conservation program must essentially be built upon the conservation of the soil and water resources which are so essential to all life.

V. Water and the Water Cycle

Water is essential to all life. Even if we have good, fertile soil and water is lacking it will not support living things. Plants attain their maximum abundance and the growth of vegetation is most luxuriant where there is an abundance of moisture in the soil. In desert regions the plant life is sparse and such plants as do exist there have adapted themselves for life under conditions of extreme drought. Most of these plants have very small leaves, or no leaves at all, and their stems have been modified to serve as storage places for water. On the other hand we find very dense growths of vegetation in the warm and humid tropical lands where rainfall is abundant and well distributed throughout the year. Forest trees require a goodly amount of water while grasses and some other herbaceous plants can thrive on lesser amounts and are able to grow on lands which do not receive sufficient moisture to support trees. The great grasslands which occupied the Western plains were able to occupy that land simply because the rainfall was insufficient to permit tree growth. The type of vegetation found in any region is a result of the amount of rainfall and the capacity of the soil to retain moisture.

Water exists in three states; as a *liquid,* as a *solid* (ice), and as an invisible *gas* (water vapor). If we were to pour some water into a shallow pan, and leave it exposed to the air and sunshine, we should see that it gradually disappears. We cannot see where the water is going to but by simple deduction we could tell that it was going into the surrounding air. The process by which the liquid water is turned into an invisible vapor and vanishes into the atmosphere is known as *evaporation.* The atmosphere is constantly obtaining water in a vapor form from the earth's surface— from the surfaces of the oceans, ponds, lakes, marshes, and all other water areas, from the soil, from the vegetation, and from many other sources. This water vapor is carried aloft by air currents and when the air becomes cooled at high altitudes this water vapor *condenses* to form clouds and ultimately it falls earthward again as *precipitation* such as rain, sleet, or snow.

When rain falls upon the surface of the earth it tends to flow from the land toward the great storage basins we know as the oceans. Some of it is evaporated again in falling toward the earth, or evaporates soon after it reaches the earth's surface, but most

By William Grimm

of it either runs off the land into the creeks and rivers or is absorbed by the soil. The surface run-off is regulated to a remarkable extent by the vegetation. Some of this water retained by the soil is used up by the vegetation but a great deal finds its way downward into the subsoil and the porous rocks beneath. Water may be stored in the ground for considerable periods of time but eventually it escapes through springs and seepage areas. Water is also stored in natural basins, or depressions, on the surface of the earth such as lakes, ponds, swamps, or marshes.

To obtain the greatest good from the water which falls upon the earth's surface it is necessary to retain it as long as possible upon the land. Man, however, learned the truth of this matter the hard way. For years he labored to hurry the water off the land in the shortest possible time and by the most direct route. He constructed ditches and drains and often straightened out the stream channels to expedite its movement. During the past century Americans went on a drainage "spree" and now we have begun to witness the results. The wholesale drainage of lakes and marshes has brought about a general lowering of the ground water level (the *water table*). This has had serious repercussions on agriculture in many localities. With the advent of the drought years, growing plants suffered because lowered water tables meant that practically no moisture was available. Much good farm land has been ruined by unwise drainage projects. We have also done much toward hastening the water off the land through the removal of forests, grasses, and other native vegetation and we have experienced the results in rapid erosion of the soil, devastating and frequently occurring floods, and other consequences.

Wildlife, too, must have water but through many ill-advised drainage schemes we have destroyed hundreds of thousands of acres of the best wildlife habitat. Waterfowl, in particular, have suffered tremendously by the destruction of great breeding grounds both in this country and in Canada. Now some of the land which was obtained by draining off the water proved to be good farm land but many, many thousands of acres of it proved otherwise. Valuable lakes and marshes were pawned for worthless alkali flats and dust bowls. Since man has learned that he was wrong, and that nature had been right in the first place, he has been endeavoring to amend much of the damage which he has done. This, however, is going to cost millions of dollars and require a great many years to accomplish but, out of sheer necessity, it must be done. Soil conservation, flood control, and agriculture all require that water be retained upon the land as long as possible; retained for the use of growing crops, for livestock, for wildlife, and for man's own recreational use. Water must be retained in order to make it serve many useful purposes instead of becoming a monstrous agency of destruction sweeping toward the sea.

Pure water is a precious asset but man has been responsible for the misuse of water areas just as he has been guilty of the misuse of our other natural resources. Many sources of drinking water have been rendered *unpotable,* or unfit for such use, through *contamination* by organisms which are apt to cause disease. Thousands of miles of streams have been *polluted* with industrial wastes and with raw sewage so that they no longer produce fish and other valuable aquatic life or serve any other useful purpose. This use of streams for the disposal of man's filth and poisons is certainly neither a wise nor a legitimate use.

(Continued on page 28)

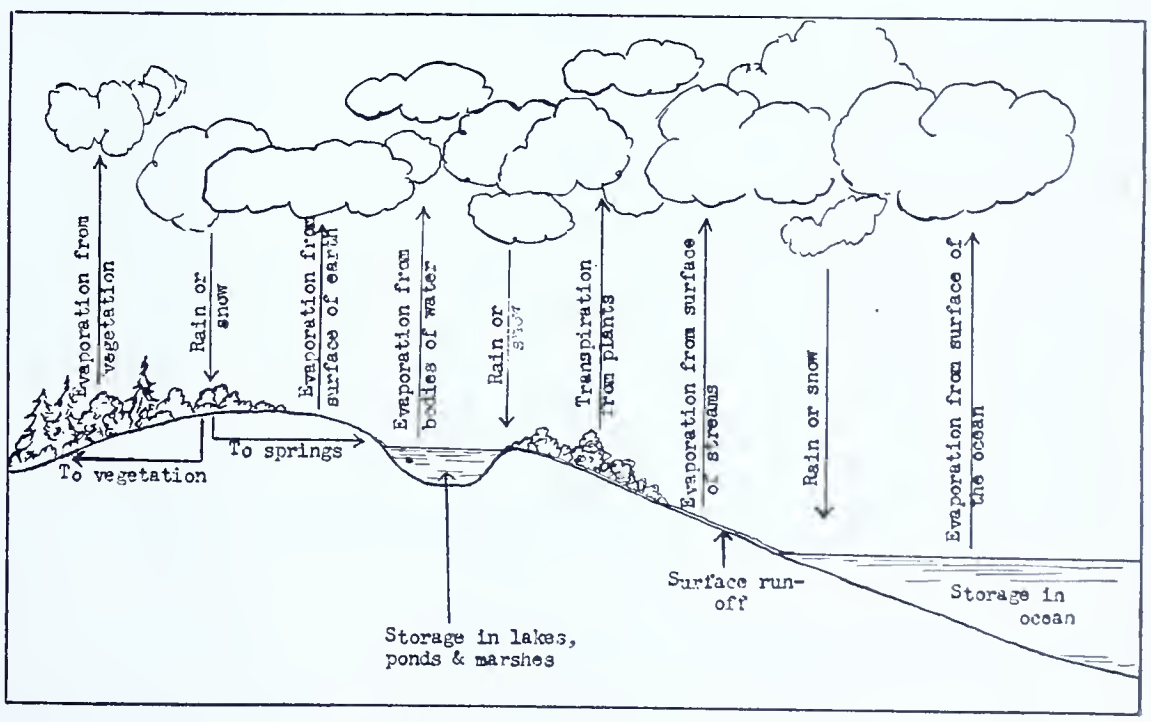


DIAGRAM ILLUSTRATING THE WATER CYCLE



Photo National Park Service.

Winter elk range in the vicinity of the Buffalo Ranch in the Lamar Valley; illustrates very well the extensive use of that area by elk. Many trails can be seen leading from the feeding area to the small bank of elk climbing the ridge. January 12, 1937.

Practical

By Victor H. Cahalane

In Charge, Section on National Park Wildlife Division of Wildlife Research, Fish and Wild life Service

REASONABLY accurate population estimates are essential to the wildlife manager and game administrator. Data gathered painstakingly and often at considerable expense is worth many times more than the cost. Just as the manufacturer cannot operate efficiently without accurate knowledge of the amount of his raw materials, or the business man arrange an orderly flow of goods, so the wildlife administrator cannot plan for maximum production and utilization of game while lacking census information. Proper range conservation and protection of other natural resources, fair hunting and trapping regulations, and hearty public support of game laws, all depend on adequate knowledge of populations.

The study of populations is closely related to land management. It serves as a basis for planning the most desirable and efficient use of lands. Not only total populations, but relative numbers of sexes, the rate of increase or decrease, and territorial distribution must be ascertained to determine the success of wildlife and other crops.

Mammals have a decided effect on quality and species composition of the range, particularly when they are abundant. It is needless to cite the numerous instances in which deer, antelope, moose and wapiti have exceeded the carrying capacity of their ranges, with detrimental results on animals, plants and even on the soil itself.

Adjoining agricultural lands, fences, and standing or harvested crops may also be damaged or ruined by starving animals that cannot find sustenance on depleted wildlands. It is necessary to determine food requirements, and the numbers of various species that their range can carry. Animals can then be transferred to other areas or more drastic steps taken—depending upon the information obtained.

Population studies may point out disparities in use of a given range by different species of mammals. For example, an overabundance of deer and elk on winter range may prevent other, rarer, ungulates from obtaining a proper share. In a number of places in Colorado, Wyoming, Montana and Idaho the bighorns are crowded into the high country. At such inhospitable altitudes severe weather conditions and lack of food may yet have a decisive adverse effect on the animals' struggle for survival.

In forest management, application of population studies may be more complicated than on grasslands, as the environmental factors are usually more numerous and also more obscure. The changes that occur in plant succession are more marked in the forest. As stands approach maturity the crown openings close, and herbs and shrubs are crowded out. Lumbering or fire introduces profound and very rapid changes, bringing an increase of the plants on which most important mammals feed. Thus carrying capacity in woodland is likely to vary over wide limits.

Skill in manipulating the forest cover is necessary if animal populations are to be maintained at artificial maximum and stable levels. Otherwise, large numbers of browse-dependent mammals such as deer, rabbits and hares will build up during the early forest stages, only to be reduced to low numbers as hardwoods approach maturity or even give way to conifers. By keeping in close touch with the situation through adequate censuses and distribution studies, the wildlife manager can anticipate marked fluctuations. Food can be maintained by cuttings—if necessary—by plantings, and by judiciously harvesting the wildlife crops.

Depending upon species, seasons, and other circumstances, mammals in turn may exercise beneficial and also harmful influences on the forest. It is important that the manager of commercial timber land have means of determining, through population studies, the status and thus the influence of wildlife species.

Tree squirrels, for example, may increase the stand density of certain valuable hardwoods by their nut-caching activities. Other ground-dwelling rodents, if too numerous, may threaten desired forest reproduction by cleaning up the seeds for food. An overpopulation of browsing mammals may practically eliminate certain species of trees. Elk or wapiti may not only kill older aspens, but even retard or prohibit reproduction of that desirable browse species.

When snowshoe hares have been too numerous in the northern lake states, they have also done serious damage to reproduction. On the other hand, these hares have been known to aid commercial forestry by thining out the stand so that the remaining trees could make good growth.

In national parks and other areas where artificial means of increasing or decreasing numbers of animals are used only as a last resort, population trends must be watched perhaps even more closely. Indirect controls are desirable but are slow in achieving results. One of the few cases of serious over-population within national park boundaries—that of the northern Yellowstone elk herd—might have been averted by regulated hunting outside the park. This method of relief, however, would have had to be applied decades before the problem reached such disastrous proportions. Because the situation was not discerned in time, compensatory measures must now be taken within the park itself. These drastic steps cannot fail to exercise undesirable influences on the environment and other species. Thus a whole train of artificial aids and regulations for the fauna may ensue. Foreknowledge by constant census-taking in such cases would be invaluable.

The park administrator is particularly sensitive to the public interest in the fauna of his areas. Frequently the wildlife is a major attraction, and fluctuations, real or fancied, arouse a public furor. Variability of wildlife population may have actual effect on public travel to the areas, and this, in turn, will be felt by large commercial enterprises whose earnings may be affected. It is highly desirable, as a matter of public information, to make available concrete and accurate data on migrations, population trends and annual births and mortality of principal species.

Preservation of rare species is one of wildlife management's greatest responsibi-

Application of Mammalian Population Studies

lities. Population studies of them by demonstrating the danger in which they are placed, serve an important popular purpose. The layman, as well as the scientist cannot escape the obvious implications of such statistics: The total grizzly population in the United States is reduced to 1,160—the trumpeter swans to about 190—the ivory billed woodpeckers to probably less than 30. Accurate counts, or careful estimates, present more forcible pictures of the danger of extinction than do many words of exhortation.

For a small but earnest section of the public, it is especially necessary to have data on numbers and distribution of the predatory animals. Justification of management, or the policy of abstinence from interference with natural conditions, can thus be offered to these perennial critics. Administrators of control operations themselves are sometimes embarrassed by absurd claims of damage presented by the ignorant or misinformed.

Information on population trends is of vital importance to agencies charged with formulation and administration of hunting regulations. Such organizations are under the constant surveillance of a large and well-organized body of sportsmen whose feelings are readily and volubly expressed. Failure to maintain an adequate supply of game mammals and birds for annual hunting brings immediate criticism. Game administrators, therefore, are well aware of the need for information to justify open or closed seasons and bag limits.

Changes in existing regulations are frequently resisted by the hunting fraternity and sound reasons for proposed restrictions or relaxations are needed. Contrary to expectations, hunters at times may be as strongly in favor of complete protection as they may at other times demand wide latitude for sport. The so-called buck law, as is well known, was a potent factor in bringing back white-tail and mule deer. Game administrators in states that now have too many deer for the available food supply are meeting nearly as much resistance in getting public support for open seasons on does, as their predecessors did in obtaining the original protection. Doe-shooting in some states is so repugnant to the general public that only the bravest officials dare to propose it publicly. It is evident that information on the numbers of deer of both sexes, the annual increase, aggravated mortality arising from natural causes, as well as other life-history facts are necessary to bring about a change of sentiment. Population statistics must supplement the results of range surveys in order to emphasize the gravity of the situation.

Studies thus far have indicated fluctuations of both mammal and bird populations. These local changes year by year or season by season may follow regular cyclic patterns or may be caused by unpredictable factors of climate, disease, changes in flora, or other causes. Where hunting pressure is high, the wildlife manager, through continuing population studies, should be able to regulate hunting according to the available supply of game. Although some progress has been made, legislation has not yet caught up to scientific inquiry in wildlife management. Game laws of state-wide uniform application do not take into account the local changes in mammal populations. Thus unnecessary depletion occurs.

With the increase and dispersal of human population and greater demands on land production and on wildlife resources, it is certain that more intensive management will become necessary. Demands of the non-hunting public for wildlife as a spectacle must be considered. Rare species must be guarded more zealously. An adequate number of game animals must be available to hunters, but despite increased hunting pressure, the supply of game must be maintained with ever-narrowing reserves of surplus animals. The value of population studies is becoming apparent, and better and more accurate determinations will be required in the future.



Photo U. S. Fish & Wildlife Service.

Dr. F. C. Lincoln, in charge of bird-banding, U. S. Fish and Wildlife Service, bands a mallard. Each year authorized bird banders mark thousands of ducks and geese with numbered bands. A record of each is kept in Washington, D. C. The recovery of every bird band and the trapping of every banded bird are recorded. These records give biologists the information they need in studying birds' migratory habits, distribution, and abundance. These studies provide basic information for establishing bird refuges at strategic points, for administering them, and for making hunting regulations.



The author at work.

Photos by D. L. Batcheler

Proper Approach to a Duck Dinner

An Off-season Indoor Sport

By Fred Stone

IF you happen to be one of those persons who aspire to bag a few ducks, and have tried without success, you realize the impossibility of chasing them. That lets one other method, make them chase you. This can be done by the use of a set of decoys. Just how to secure these, especially at this time of hindering restrictions, might seem like a major problem, but it is not if you can follow a few simple directions.

This article is an attempt to find the material and help you to assemble same in such a way that cost and labor is cut to a minimum; anyone with a few inexpensive tools and a slight knowledge of how they work can make his own decoys of a quality that is acceptable in the best of duck circles, and will prove worthy as long as justified by the care given them.

COST: Using the proper approach to secure the material, 12 duck decoys should cost about $7.00. To assemble should take about 10 or 12 hours of scattered spare time.

MATERIAL: First let's look about for our material—the bottom boards on which the cork is mounted should be either clear white pine or cedar, the first can often be found, in the short pieces needed, among scraps. It should be 10½ inches long, 5¾ inches wide by ¾ inches thick, and if ordered from a mill the cost is but slight. The keels are of clear dry oak, as long as the bottom board minus its upward level, 1½ inches deep by 1 inch wide. This can be secured at your local mill or from scrap. The dowels are ½ inch hardwood, they cost about 5c for pieces 36 inches long. They must be hard wood as these are the mail support for the head. Screws, nails, anchor rope fastenings and waterproof casine glue can be bought at the nearest hardware store. Now heads and cork—that could be a problem. Cork has been frozen by Uncle Sam for the past 2 years, manufactured heads are not as plentiful since the labor shortage but don't give up, the cork can be found if you patiently canvass all local cold storage plants, food lockers, and insulation stores, for cork insulation scraps. All you need is scraps of pressed ground cork insulation 6 x 12 x 3, battered pieces are acceptable as long as you have one flat surface on which to mount the bottom board, the corners get rounded off anyhow. In ordinary times cork cost $5.10 per 36 pieces, prepaid from Philadelphia. Heads are still available from a few of the decoy manufacturing houses. They cost at this source less than $3.00 per dozen with the glass eyes, all heads I use come from here, to get the heads cut rough at a mill to whittle down by hand will run close to ½ of factory price finished, if you prefer you can cut your own heads. Here I would strongly recommend the use of a borrowed decoy as a model, make a tracing of head on card board and have the mill cut the heads rough from that, by following the model closely a good head can be worked out by using a wood rasp and pocket knife, glass eyes can be bought from a dealer or made of rounded upholstery tacks painted.

TOOLS: The tools needed are of a variety that can be found in most homes. If too badly battered, (by the little woman) moderate priced tools can be purchased as the tool work is minimized and need not be of hairline accuracy. They consist of rip saw, compass saw, screw driver, hammer, plane, vice brace, ½ inch and small bit for setting screws, rule, compass, sand paper block and wood rasp.

ASSEMBLY: You will find the work much more simple if all parts are finished separately and then assembled into the finished decoy. For instance, eyes and dowels are put in the heads, bottom boards are cut and finished then mounted to the cork with casine glue. Board and cork should be clamped or weighted until thoroughly dry. Measure back 2¼ inches from front of bottom board and drill ½ inch hole for head dowel (be sure hole is true), insert head, mark back edge of head, cut out cork to a depth of ½ inch (this is the breast and should be lower than the back), hold finished keel with front flush with front end of bottom board and mark center position of dowel on keel, drill hole for dowel to pass through, glue head to cork and keel to bottom board, draw head tight against, or better yet, slightly into cork to make a waterproof joint. Varied head positions are desirable to break the monotony of the usual run of a set of decoys, this can be accomplished by turning some heads left and right as well as taking ½ inch or so off of the neck of a few. Low heads are the best as it is a natural contented duck head pose, also it offers less wind resistance thereby eliminating the usual sidewise rocking motion. Drive small nail through keel to fasten head. Your decoy is now assembled.

FINISHED SHAPE: To reach the finished shape cut off all corners with the compass saw, front, top and tail bevel up and down, when this is done you should be able to see the decoy taking shape. The rasp finishes

(Continued on page 30)



Tools.

Waltonians Press Post-war Conservation

By Johnny Mock

Outdoors Editor Pittsburgh Press

On Jan. 14, 1922, 54 sportsmen met at the Chicago Athletic Club to discuss the future of the nation's sport afield and astream.

speech which so inspired the group it brought into existence an organization destined to play a greater part in bringing the conservation movement to the front than any other in the history of the country.

Today, more than ever, it continues to function as a major and important factor in bringing about the purpose and aims of the slogan adopted that cold, wintry day on the shores of Lake Michigan—"Restore to posterity the outdoor America of our ancestors."

Sept. 28, 29 and 30, 1925, another group, the representatives of 126 chapters of the Izaak Walton League of America met at Williamsport to form the Pennsylvania Division. We well recall the number of delegates, for we were the chairman of the credentials committee.

In four years, Will Dilg, who had been elected president, built up the largest and most dynamic force of unselfish workers for conservation this, or any other country has ever seen.

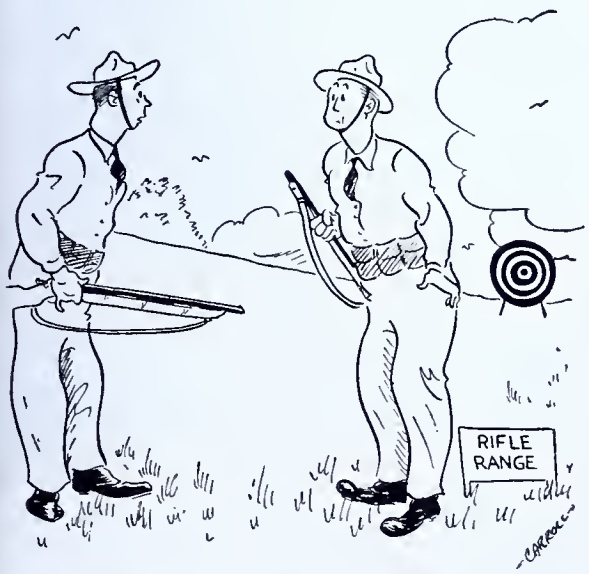
Two years after his retirement in 1926, more than 3000 chapters in 43 states were engaged in furthering the cause.

Having weathered many trying times, the league remains as the "Defender of Woods, Waters and Wildlife," with an ever-increasing membership made up of aggressive Americans who find in it the true champion of restoration and conservation of America's out-of-doors.

Over the weekend of Oct. 30 the Pennsylvania Division held its 19th annual convention, with the Huntingdon Chapter playing host, its hospitality highly recommended by the visitors.

We have attended many of these affairs since the initial meeting held at the Lycoming County community, but none of the preceding gatherings left the delegates so inspired and fired with enthusiasm.

The address of Congressman Karl Mundt of South Dakota, principal speaker and an ardent Waltonian almost since the inception of the organization was a masterpiece of oration. Had every man, woman and child in the country been able to hear his words we're quite certain the ranks of Waltonism, today, would include every individual regardless of how small the spark of interest in God's great outdoors.



"Now if this was huntin' season!"

Another speaker, William S. Livingood, Secretary of Internal Affairs, gave the assembled delegates new hopes in the future of one of the principal objectives of the league—the purification of streams.

The secretary made one of the most refreshing speeches we've ever heard coming from a public official. He made no rash promises, but gave the representatives only the facts. He spoke sincerely and let it be known the committee appointed by Gov. Edward Martin, of which he is chairman, is putting forth an honest effort, within the limitations of a nation at war, with which it is confronted.

Membership Shows Big Increase

Others to address the convention were Seth E. Gordon, executive director of the Pennsylvania Game Commission and a former executive director of the league; Ken Reid, present general manager of the league and a former member of the Pennsylvania Board of Fish Commissioners from Connellsville; Jack Carey, president, Allegheny County Sportsmen's League; William Montgomery, Deputy Secretary of the Department of Forests and Waters; Dr. I. H. Alexander, Pittsburgh's director of health; Dr. William H. Moore of Philadelphia, first president of the Pennsylvania Division, and G. I. Phillips, Huntingdon, member of the Pennsylvania Game Commission.

Prominent in the affairs of the meeting was Mahlon La Rue of Shillington, father of the Pure Streams Act of 1937.

Delegates of the local chapter included Dr. A. W. Henn, C. W. Ward, J. L. Carey, Dr. Alexander and the conductor of this column.

The annual election of officers resulted in the re-election of John P. Deck of Reading, as president and Ralph E. Walley of Wyomissing, as secretary.

Others included Carey, W. T. Logan, Lebanon and J. S. Rhoda, Reading, vice presidents, and E. M. Swanger, Lebanon, treasurer. Directors, A. R. Lashley, New Kensington; Howard Shilling, Huntingdon; Ross Metcalf, Connellsville; A. E. Hall. Media; O. A. Becker, Reading; Leslie Blackburn, Everett; Frank Thomas, Philadelphia; J. H. Coffman, York; Ted Williamson, Oil City; J. N. Entricken, Kennett Square, W. H. Zehring, Lebanon, and Hope Larish, Benton.

W. J. Meyers, Lebanon sparkplug, advanced a number of suggestions in relation to the welfare of the league, principal of which was a potential state periodical which would acquaint prospective members with the accomplishments of the league, both as a state and nation-wide conservation agency. The membership of the league has more than doubled itself during the past year or two and much of the credit for this accomplishment goes to this war worker who still finds time to spread the gospel of the league.



"Boy! You should'a seen the rabbits I saw here last summer while I was trying to catch one legal size fish."

Urge Teaching of Conservation

Among the resolutions adopted by the more than 100 delegates was one dispatched to Gov. Edward Martin urging the teaching of conservation in the schools of Pennsylvania. Another expressed approval of his action in creating the pure streams committee. The chief executive of the state was also asked to include on the staff of those studying post-war projects, qualified biologists so that the biological values be given equal consideration with other undertakings, as well as to make provision for adequate stream purification by restricting future public funds to such communities which give preference to this subject.

When the boys return we must be prepared to give them a country to which they'll be doubly glad to get back to and much of this will be in pure streams, green forests and an abundance of wildlife in a habitat as Mother Nature intended it to be. A mighty organization is needed to create these ideals and no community should be without the instrument with which it can be accomplished. That instrument is the Izaak Walton League of America.

In the words of Ivar Hennings of South Bend, national president, "Now is the time to prepare for the counter-offensive!"

The ravages of World War I demanded the creation of this nationwide organization of conservationists. World War II will bring about an even greater necessity because of the greater contributions we've had to make to bring about victory.

New Types of Pens for Bobwhite Quail

By Ralph P. Nestler

Fish and Wildlife Service, U. S. Department of the Interior, in Collaboration with Allan T. Studholme, Division of Propagation and Research, Pennsylvania Game Commission.

Quail Breeding Pens

TWO new types of quail pens have appeared on the State game farms of Pennsylvania, both of which are practical for private farms. The breeding pen shown on page 31 has been tried out on Pennsylvania Game farms for 5 years and at the Patuxent Research Refuge, Bowie, Maryland, for 3 years and found to give excellent satisfaction. The cost is low, construction is simple, and the units can be easily serviced. The 4-unit pen is generally preferred over the one of 3 units because of the lower cost per unit. However, the writers have found that braces are desirable on the legs of the larger pen, otherwise there is a tendency for the pen to lean. Two pieces of 2¾" x ¾" lumber, one placed on each side of the pen from the top of one leg to the bottom of the other in such a manner that the two pieces form a cross brace, will answer the purpose.

Weeds and grass can be kept down, and sanitary conditions maintained by the placing of two strips of 3′ low-priced roofing longways on the ground under the pen. A frame 6′ x 7′10", made of 2" x ¾" lumber, placed around the roofing under the legs of the pen will hold the roofing securely in place.

Seldom does the movement of such objects as small birds, leaves, and pieces of paper under these pens frighten the quail. Even the removal of droppings from beneath the pen with a pushbroom seldom causes a panic, provided the operator works without bustle under only half the pen at a time so that the birds can obtain refuge in the other half away from the broom. However, the passage of cats, dogs, or large fowl under the units might have a terrifying effect on quail. This latter condition ordinarily will not exist if quail are kept in a properly fenced enclosure.

Quail Holding Pen

The holding pen, also appearing on page 31, has been used successfully for several years at Fisher State Game Farm at Schwenkville, Pennsylvania. It is 60′ 8" long, 12′ wide and 5′ 3" high. The wire floor is 3′ 9" above the ground. This pen will accommodate four hundred mature quail. The superintendent states that he has practically no trouble with fighting or picking in these large pens. Inasmuch as the birds are able to exercise their wings, it is believed that they will be better able to adjust themselves to liberation than birds raised under more confined conditions. The transfer of young stock to these large pens is made when the quail are five to seven weeks old. Boughs of trees sometimes are placed around in the pen to give the bird shelter.

Perhaps the biggest objection that might be raised against this type of pen is the danger of an epidemic of disease spreading

(Continued on page 31)

LIST OF MATERIAL

NO REQUIRED	SIZE	DESCRIPTION	REMARKS
		PEN	
33	6'to8'x6"	Locust Posts	Rough
2	8'x8"	Locust Posts (Braces)	Rough
11 Pieces	2"x4"x14'	Floor Beams	Finished Mat
12 "	2"x9"x14'	Boards (Lower Sides)	" "
3 "	2"x4"x3'	Strips (Above Doors)	" "
29 "	2"x4"x6'	Posts (Sides and Ends)	" "
12 "	2"x4"x14'	Top Rails (Sides and Ends)	" "
11 "	2"x4"x12'	Top (Cross Rails)	" "
110 Lin. Ft.	8" Wide	Galvanized Sheet Iron (Dropping Board)	See Detail
150 " "	1¾"x1¾"	Wood Strips (Floor Wire Supports)	Finished Mat
1-150 Ft. Roll	1½"	No 18-6 Feet High Chicken Wire	Top of Pen
1- " " "	¾"	No 16-6 " " " "	Floor of Pen
2- " " "	1½"&1"	No 18-36" High-1" Lower Sides - 1½" Upper Sides	Chicken Wire
500 Lin Ft	—	No 9 Gauge Galvanized Wire (Smooth)	Top-Bottom-Ends
2	8'x8"	Locust Posts (End Center Post Braces)	Rough
		DOORS	
60 Lin Ft	¾"x3¼"	Material for Doors	Finished Mat
25 " "	¾"x2½"	Brace Strips	" "
6	4"	Butt Hinges	
3	3"	Steel Barrel Slide Bolts. (Door Lock)	
		STEPS	
60 Lin Ft	¾"x8"	Boards (Steps)	Finished Mat
30 " "	¾"x12"	Boards (Sides)	" "
		MISCELLANEOUS	
4 Poles	4"x12'	Roost Poles	Rough
3 Pieces	1"x36"x12'	No 18 Chicken Wire. (Stop Flight Screen)	
110 Lin Ft	¾"x6"	"Greens" Feeder (Ends) "3 Feeders"	Finished Mat.
30 " "	¼"x3"	" " (Sides) " "	"
300	—	Copper Plated Hog Rings	

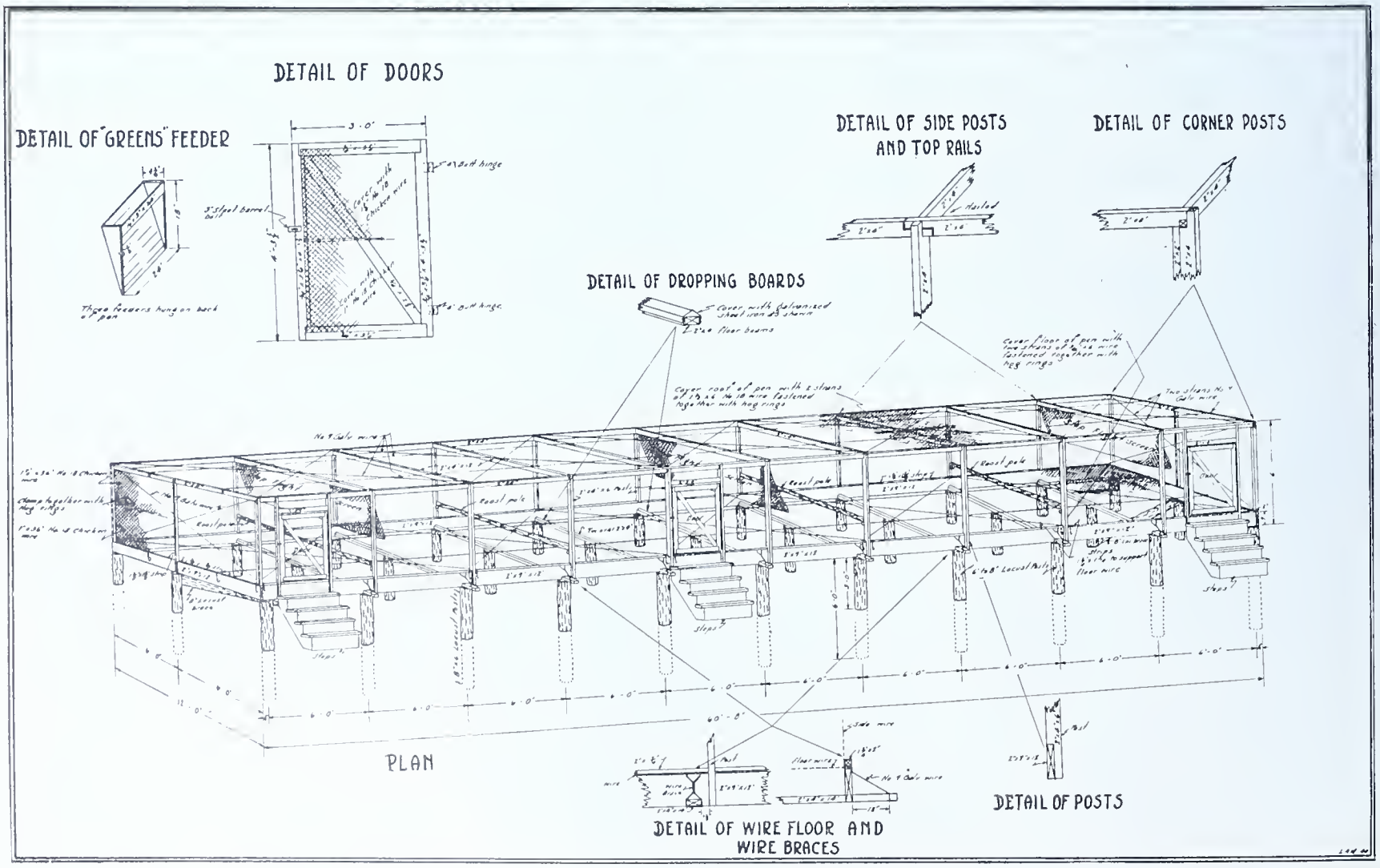


Diagram of large size quail holding pen shown on page 31.

Calling Mr. Average Deer Hunter

By F. J. Floss

BY average hunters we have reference to the majority of hunters who, when the deer season is over, hang up their guns then never look at them again until the next season. Most Pennsylvania nimrods come within this category, not because they want to put up their guns for 11 months of the year, but because necessity demands that they work to keep the wolf from their doors. They work hard every day so that they can take their hard earned vacation when deer season comes around.

Deer hunting to them is a time when they can go outdoors for a few weeks and revel in doing the thing they love. They don't think in terms of safety and the science of hunting. No, to them hunting is the pleasure of roaming over mountain and dale in search of that mythical whitetail buck with a rack of antlers that would serve as a clothes tree for an army, with never a thought of the tragedies that can be caused by the careless use of a hi-power rifle. So lend me your ear Mr. Average, I'm not talking through my hat. I've followed and studied this grand sport called hunting extensively ever since I've been strong enough to point a BB gun at a ferocious sparrow. I've seen what was left of the anatomy of a man after a hi-power slug had blasted the life from it. To be sure it is a gory sight to behold; but, it makes one stop and think what carelessness really means when handling a rifle that can kill miles from where you shoot it.

That proverbial phrase, "Familiarity breeds contempt," doesn't apply when applied to a rifle, for being familiar with your rifle is to respect its potential killing range, and to respect its killing range is the first rule of rifle safety. By being familiar with your rifle is to know at what ranges you can accurately hit your target, passing up those long out of range shots that you only have one chance in a thousand of connecting with. This season don't waste your ammunition on out of range shots; you never know who may be near your target on that opposite mountain-side. *For safety's sake don't over-shoot your rifle's range!*

The Average Hunter can determine the range of his rifle by studying its trajectory in the various catalogs issued by cartridge companies. Study of your rifle's trajectory will inform you just how it will shoot over various ranges thereby enabling you to shoot with accuracy. For example if you use a 30-30 rifle, with a "Peters" 170 grain cartridge, the mid-range trajectory would be, 0.8 of an inch at 100 yds.; 4.0 at 200 yds.; 12.5 at 300 yds. All this is necessary to rifle accuracy, because the flight of the bullet from muzzle to point of impact is in the form of a curve. The greater the distance from muzzle to target the more the muzzle must be elevated to prevent the bullet from falling short of the target. Therefore the wisdom of being familiar with your rifle bears itself out in the fact that knowing the trajectory height of your rifle at various ranges enables you to determine at which range the trajectory is flat enough to eliminate the possibility of a miss at any intermediate point. Thus it can be seen that if your rifle is sighted in at 200 yds. using the above mentioned cartridge, you could shoot at a target 100 yds. closer, and without changing the sights still hit the target at 100 yds. within 4 inches of your point of aim.



150 lb. buck shot in 1942 by J. E. Briggs in Lycoming county.

Another unsafe practice that gives us the jitters, Mr. Average, is seeing a hunter carrying his gun with the safety on "off" position. This is a very dangerous practice, for if you should slip and fall, get a twig caught in the trigger, bump the gun extra hard or accidently touch the trigger, you will very likely injure yourself or your companions. Last season, I really blew up at seeing so many hunters carrying guns with the safety off. So, I asked a few why they did not carry their guns on safety until they accurately sighted game. To my question they all replied that it would nullify their chances of getting a shot at running game, if they had to fumble for the safety catch.

Now I will admit that the guy who designed some of our guns must have stayed up nights trying to find the most obscure place there was to put the safety catch. They are every place on a gun but where you can reach them in a hurry. Only a few are located on the top where they can be pushed off with a free flowing motion as you bring the gun to your shoulder. But they make them that way—you buy them that way—you'll have to make the best of it. This drawback can be overcome to a large extent by dry practice with your rifle at home. Practice dry shooting, by holding your rifle down at your side, then snap it up to your shoulder, pushing off the safety at the same time you bring the gun up. Practice this dry way consistently for a few weeks before going hunting and you'll find that it will come naturally to you when you get a shot at game.

Also Mr. Average never wear white when hunting deer. I once saw a hunter shot just because he wore a white shirt. This is how it happened. A novice had just jumped a buck and shot twice at its fast disappearing rump, in a thick patch of laurel, from a tram road above it. And when a white flash appeared at an opening a few hundred feet below in the direction the deer had taken, he shot, thinking it was the deer's white flag; but alas, it was a man's white shirt he shot at. Must I say more. You know the answer; another victim of carelessness. Always wear red when hunting deer. It will stand out vividly and seperate you from the brown background. If you can't afford a red deer hunting outfit, then do the next best thing. Purchase a couple of red bandannas, and sew one on the back of your coat, then split the remaining one and sew it on each side of the front of your coat.

Red bandannas Mr. Average can also be used to locate wounded game by tying one at the point where you shot from and walking over to where you thought your deer fell. If you don't find it there, or a blood trail, then you must have miscalculated; tie a second bandanna where you thought it fell; then walk back to where the first bandanna is; then look across at the second and see how far off you were from where you first marked your deer down. Then go back over to the second and move right or left from it depending on where you marked your deer down. If you don't find your wounded game where you marked it down, start out by marking an everwidening circle around the spot until you find your game or its blood trail.



Here's a big one—a 228 pounder killed by Wm. D. Sassaman, R. D. 1, Northumberland, last year. Game Protector Bruce P. Yeager says it's one of the largest he ever saw.

RABBIT-TRACK MOSES AND THE PREACHER



Rabbit-Track Moses.

T WAS a rather warm Autumn evening—the kind you'd like to live through twice—and, up to the certain moment of which I'll tell shortly, a very pleasant evening. Reverend Withers was in charge of the game association meeting, and all members were present, relaxed and content, settled back in their chairs with pipes or cigars, the spirit of the hunt lighting their eyes and the warmth of the chase firing their cheeks. It was very suddenly that the door to the club-house swung open, and that the room filled with strange, foreign odors, and that Godfrey Swinburne "Rabbit-track" Moses burst into our midst.

Reverend Withers paused in his speech. It takes a mighty lot to make the good preacher do as much as pause; and I believe, from the wrinkle on his nose, that odors rather than noises distracted him. He turned about slowly, sniffing curiously at the air with his sharp thin nose, and then, sighting Rabbit-track lowered his eyes, readjusted his horn-rimmed spectacles, and made a slow, disapproving study that started at the soles of Rabbit-track's shoes and terminated at the peak of the greasy hunting cap.

I must confess I was amused. There was the reverend—the acme of cleanliness, politeness, the satellite of the Ten Commandments and proper conventions, spic and span and meticuously groomed; and beside him—and beside him—

Let me describe.

Beside him was shiftlessness, irresponsibility, and ignorance. These were my first impressions. Rabbit-track was a tall, gangling man of his late twenties. He had coal black hair, full of pine knots and assorted vegetation, and groomed by the whims of the winds. His ears stuck out of this mass of hair, dirty-grey with scabs on the tips. He had a homely, dull-looking face that wore an expression of puzzled amusement. A long, broad, stream-lined nose filled most of the face, and two large buck teeth seemed rooted to the base of it. He had sloping shoulders, a pot belly, and legs that looked like unseasoned two-by-four timbers after a two-day rain.

His clothing looked as if it had dropped on him. A greasy hunting cap, ripped and riddled with buckshot holes, was perched on top of his head. He wore a red hunting shirt and a leather jacket with most of the leather worn from it. His trousers were corduroy, jammed in a well-worn pair of high top shoes. A number one trap hung from one trouser-pocket, the chain dangling to his knees. He leaned forward as he looked us over, his arms hanging over his double-barreled shotgun, and his teeth worked vigorously over a chew of tobacco, most of the juice of which trickled down the corners of his lips.

"Evenin," he said, smiling.

Nobody said a word. We looked at each other, mouths agape.

"Havin trouble with yer smeller, parson? That's skunk, e guess. I had one this mornin. Little devil dug itself in and I hadda pull it out by th' tail. Left me have it right up my arm." Rabbit-track grinned, and his face was all nose and buck teeth again.

"Will you please state your business, Mr. Moses?" the reverend asked, in affable tones.

"Rabbit-track's snufishint, parson. I ain't one to mind respecktable nicknames."

I laughed. So did most of my colleagues. But the reverend remained his frozen, dignified self. On no occasion did he melt to more than a slight, gentlemanly smile.

"Come on, Rabbit-track," called out Doc Mayers. "What's on your mind?"

"Well, I tell yeh. I'm a trapper, first, and foremost. Oh, I like to hunt, but it's a trapper I am. An' I can tell any track from a barnyard rat to a blasted guinea hen, taking in skunks, possums, weasels an' all. An' I also have eyes for two-legged rats—an I trap for them, too, like the parson traps for souls."

Reverend Withers winced. "This is all very very interesting, Mr. Moses. But come to your point, please."

"The point is, reverend, that I seen me some two-legged rats of late an I'm thinkin youse would want to help me in my trappin."

"Two-legged rats?" echoed the reverend, obviously bewildered. And then a familiar hardness crept into his lean face—a cold hardness, like steel. Oft had I seen this hardness gather, viewed from my favorite pew, as the reverend had denounced the devil. "Mr. Moses, you have been drinking again. Have I not told you—"

"Hold on!" called out Doc Mayers. "He means the kind of rats that hang around Skunk Hollow camp, shooting grouse out of season. Go on, Rabbit-track, speak your piece."

Ah! I sighed; a long sermon curtailed! If only Doc Mayers would have such courage to deal with the termagant he married! But of this, more later.

"I was trappin for a possum out near Hayes crick. I had him oncet but he wedged between two rocks an when I grabbed holt of him he bit me on the finger and pulled out the trap. He hasn't been out the last few nights—"

"Hang the possum!" exploded Doc Mayers.

"Well I was fixin a new set for this possum when I heard a truck stop up on the road. It's the main road to White Haven up there, you know. I figgered maybe it were a coal-trucker stuck or somethin so I looked up. It were a coal trucker all right, but there weren't no engin trouble. A man with a rifle got off the truck and says 'Pick me up here again at four.' Then the driver says 'O. K. and see you get a buck today.' An the driver drives off an the guy with the rifle goes off in the bushes."

As our eyes popped and we leaned forward in our chairs afraid to miss a word, Rabbit-track went on: "I follered this trucker. He warn't no native of the Poconos 'cause I could tell he didn't know the woods. He used a pocket-knife to skin trees so's he wouldn't git lost.

"Well, I knew there war a couple deer above the road, layin' in the laurel patch. Soon I heard some shots comin' from a high power and heard a awful rumpus and a squealin' somethin' feerosius. I didn't have to go look—ain't no fun in that laurel patch I'll tell yuh—I *knew* what had happened.

"I stuck aroun'. I crawled up into a tree an watched. I heard more shots that afternoon an' another time I heard another awful yellin'. I had nothin to do so I stayed in the tree half-snoozin and takin'



"I didn't have to go look—I knew what had happened."

By Jack Anderson

a—" He paused, looked guilty-like at the reverend: "Takin' only a wee wee bit of a nip now and then: only a wee bit that I didn't feel at all.

"Along about mid-afternoon comes a truck grindin' up the valley. I heard it from the time it shifted gears up the hill acrost from Kresges. Soon I saw the truck an' it was just that one I was lookin for because it was painted red as a Dutchman's barn. It was full of coal. It stopped right near me an then the driver whistled. A whistle came from the brush. The truck started up again then and backed across the road into a little trail. It backed outa sight, so I clumb out of my tree an sneaked like a prowlin fox across the road an' thru the bushes. I heard some noise and soon could see the truck an' the men workin on the back of it. They were loading deer into that truck, they were, an' I seen 'em do it! They had shoveled off some coal an' then shoved in the deer and piled coal over the top of the hides.

"Now this I seen twice once. I ain't one to be actin quick or messin' with the law but I pay for my huntin' privileges an' I think somethin ought maybe be done about this sometime 'r other. I ain't a hunter, now, it's a trapper I am an—"

"Gentlemen, Mr. Moses has divulged information that requires our careful consideration," asserted Reverend Withers, gravely.

"Consideration, hell!" exploded Doc Mayers. "I say—action!"

"Consideration—and action," amended the good preacher, staring coldly at the doctor in silent admonishment of the oath. "Where is our game warden. This is a matter for his attention."

"He's over at Hickory Run on an investigation," offered a member. "He'll be back in a couple of days."

And then, abruptly, attention focused on Slim Madigan. Now be it known, he is our deputy game warden. He is not only that, but the crack shot of the western Poconos as well. He is the Wild Bill Hickok of rifle. He takes turkeys at our matches as regularly and certainly as a one-armed bandit takes coins. Big Slim rose to his feet and cleared his throat. "Let's get these crooks—tomorrow! This is something can't wait. A long time I've heard of coal truckers passing across the Poconos pulling this stunt. Let's get them!"

Like wildfire, it spread: Let's get them! It became a battle-cry. Let's get them! Volunteers were asked for to assist in the arrest, and one, and only one, begged to be excused.

"Doc Mayers, I'm surprised!" cried Slim Madigan. "You of all people, not going—"

The corpulent doctor flushed. "I have something, very important, planned . . ."

I had my ideas. After a plan for hiding out to seize the deer-killers had been formulated, I was pulled into a corner of the room by Doc Mayers. And I knew why. I knew the day following was the annual Carbon Fox Hunt, and knew that the congenial doctor would rather hunt foxes than argue with the reverend, which was his next-to-favorite hobby.

"You know there's a lot of measles in White Haven, and Mellisanda thinks I ought to stay close and tend to business," the doctor said.

"And you think you ought to go with the fox hunt tomorrow," I ventured smilingly.

"'Xactly! Help me out?"

"How?" I gasped. "Oh no! I'm not trying to talk Mellisanda out of anything!"

"You don't have to. All I want to do is get my 30-30 out tonight. You go home with me and while I go in the house you climb up the trellise. I'll keep out the lights and pretend to open the window, and hand the 30-30 out to you."

"Hey! That sounds kind of—"

"Thanks! I knew you'd do it!"

So the game was on. How could I refuse the doctor, my friend of long-standing, long a sufferer under the wing of bellicose Mellisanda? I accompanied the doctor in his gasping, coughing 'Chariot'—a Ford, vintage 1924. While the doctor went into the house I slipped into the shadows beside the house and measured the distance up the



The guy with the rifle goes off in the bushes.

trellise to the window. It looked easy. I waited until the doctor coughed upstairs in his room. It was the signal. Hand over hand, I climbed up the trellise. And all went well. I reached the top and held out my hand for the rifle. "Pss-t!" I whispered.

Out came the rifle! The only trouble was, it came out too fast. The stock of it caught me on the adam's apple and forced me backward. "Ugh!" was all I could gasp. Then the trellise broke loose from the house and tipped backward, and I had that empty feeling of starting through space. I held onto the rifle, though—and so did the doctor. His fat arm protruded from the window, holding the rifle, also holding me and the trellise from our fall. I was about to utter a complaining squeak when I heard the raw unfriendly voice of Mellisanda: "Harvey, this is no time for exercises! Get in here!" And at this, the doctor released his grip "Oh-h" I gasped, and down we went, trellise and rifle and I, ending in a disorderly heap on a rosebush. And I wonder if *that* rose smelled as sweet after the name I called it!

The next day our group congregated at Reverend Wither's house. Five of us were present, excluding our cohort, Rabbit-track Moses. He arrived late. Also, he arrived 'jingling' in spirits. His jingle was traceable, I knew at once, to a goodly amount of liquid refreshment boiling along his digestive track. Reverend Withers sniffed and wrinkled the efficient long, thin nose.

"Mr. Moses!" said he.

Rabbit-track bowed his head as if in shame. Frankly, knowing the mountaineer, the bow was only to spit a wad of tobacco juice without the wind spreading it over the preacher's white stucco garage.

When we slipped into the forest, however, there was no telling that Rabbit-track was in his cups. On the trail, he was superb. He stepped as softly as a mouse on wet cotton, and seemed to step into the thickets and merge with them as if a part of the forest. Oh yes, he was utterly stupid, measured by gauge of ordinary human intelligence; but, measured by ways of the wild, he was cultured. He knew the forest, from a practical standpoint: the trees and animals and roots and herbs by common names or nicknames; the ways to trap the fox, shoot the deer; the berries to preserve life if lost in wooded country; the ways of wilderness cooking; how to stalk and how to track; and more, much more, things not written in books which were in him, as in wildlife, like a sixth sense. I smiled as the reverend, following him, took a mighty slap across the lip from a branch. Reverend Withers was the man-of-the-world, the human being risen from the animal depths, whose instinct for forest living was buried deep under civilized methods and creature comforts, whose few animal instincts were not enough to make him a part of this forest.

Rabbit-track had scouted for us previously in the early morning. He had reported the deer-killers at work. We had only to catch them in the evening. So we hid ourselves in the forest and waited. It was a fine, warm day, and waiting was not unpleasant. We sat quietly, listening to the wind stir in the crowns of the pines and rustle in the crowns of the yellow-leafed beech trees. And then, from far-off, we heard hounds barking.

"They're chasing deer with dogs!" cried the reverend.

I smiled at Rabbit-track.

"Fox Hunt," he said.

And as we sat and waited, the hunt came closer and closer.

"They'll scare away our prey!" cried Slim Madigan, in utter disgust.

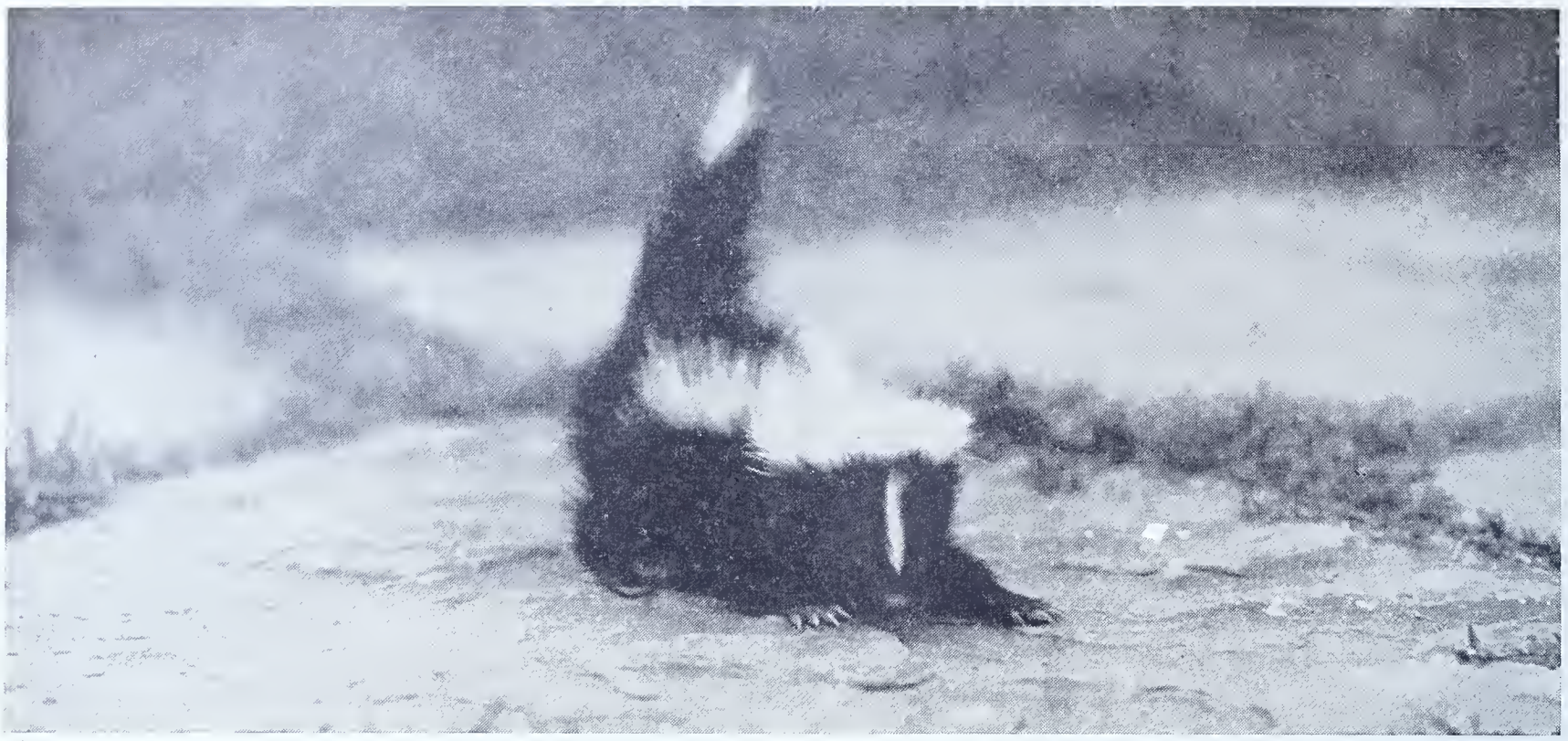
"Listen," said Rabbit-track.

Listen, we did. At first, there was but the wind. And then, whining above the wind, was a stronger distant sound. This sound increased rapidly until there was no longer doubt. The truck was returning!

"Get set!" cried the reverend.

I was crouched behind a rhododendron shrub, lying flat on my stomach. When the red truck came to a halt I remained very still, eyes and ears alert. I heard whistling. I saw the truck turn off the road and into the forest. And then—and then I heard another car come chugging up the mountain road!

(Continued on page 30)



"Sammy"

Don't You Call Me Polecat

By Sammy Skunk as told to Pvt. Robert D. Gilmore

"ALL my life, or at least as long as I can remember, I've been tagged with that moniker, 'polecat'. I don't want you to get the idea that I have a persecution complex, 'cause I don't. But I've had so much uncalled-for abuse heaped upon my head that this 'polecat deal' has become the last straw. My family and I have played a heck of a big part in the fur business, and we haven't complained one little bit about contributing our fat to the country's war effort, but we'll be darned if we're gonna sit back and take this polecat business. It's gone on long enough as it is. My daddy and his daddy, and many, many daddys back have had to swallow that insult over and over again. Why many's the time I've been strollin' along the highway, mindin' my own business, only to hear you humans remark, 'Look at the polecat.' and I get so mad. You fellows go to all the trouble of writin' just hundreds of what you call reference books, in which you classify us animals as to order, suborder, family, genus, and species, but apparently you just never read them. If you did, I just know you'd stop calling me that awful name.

My daddy and I were discussin' that name only the other day, and he told me that those reference books (that is, the really accurate ones) just never speak of us as polecats. When he told me that, it made me so happy that I could hardly wait to see the proof for myself, and I found it too. I did. I did. I looked us up and found that you have our genus classified as *mephitis*, which right away sets us apart from that polecat animal, 'cause his genus is called *putorius*. So you can see that even if I stopped right here, you'd have to stop callin' me that. I noticed, though, that an awful lot of the book writers, despite the fact that they classify us differently than that animal, still insist upon calling us 'polecat'. Even the esteemed Mr. Seton makes that mistake.

But to get on with my lookins-up. This *Putorius* fellow, and how it pains me to say this, is related to me. Oh not too closely, but darn it, he is related. You humans have classified us together under the heading, *Mustelidae,* which means havin' a smell. The books said we have musk glands. I always knew us skunks had somethin' smelly; only I didn't know that's what it was. This *Putorius* relation of mine has those musk glands too, and like us, can turn 'em off and on as he likes. That in itself is probably one of the reasons you've gotten us mixed up.

Now I wanna give you the real lowdown on this guy. Gee! he's what ya'd call a "blacksheep" I guess 'cause he's got a terrible reputation. They call him polecat 'cause *poule* in French means fowl, and cat in English means—well means cat. Anyhow the two of 'em stuck together make polecat. Don't get me wrong, though; He ain't a cat. Nosiree, he's a ferret, the *black-footed ferret.* His feet are black; the tip of his tail is black; and he wears a black mask like the coon. Only this ferret-thing wears his 'cause he's so awful, I guess. The rest of him is kind of a creamy brown, and his underside is whitish. He's about 20 inches long, and is about 4 inches high. Now I don't look at all like that. I'm kinda thickset with short legs and a gorgeous, big bushy tail. I'm coal black except for two broad white stripes running down my back, and a white stripe from my forehead to my nose. He ain't as big as us skunks neither. I weigh about 8 pounds, and that ole ferret only weighs about 3, and is shaped just like a weasel only his tail is a little bushier. I've never seen one, but I betcha he's scary lookin'.

The only nice thing I can say about him is that he's scarce and lives only where prairie-dogs are. He lives mostly on prairie-dogs, but he ain't at all particular about what he eats so long as it's small enough for him to handle. He raises all manner of heck in rabbit and chicken pens, and kills just for the love of killin'. I'm not against makin' an occasional meal out of a rabbit or a chicken (in fact they both make a purty good meal), but I'll be darned if I'll kill 'em just for the love of killin' 'em.

The polecat does resemble us in some ways, but we're not at all proud of the resemblance. In the first place, like I said before, it can turn its smell on and off; in the second place, it lives a lot like we do, in deserted buildings, rock crevices, and under porches; lastly, it does most of its roaming at night. These resemblances, plus the fact that we belong to the same family, probably helped you confuse him with me.

Getting back to that name, polecat, again, let me say that several of those books I looked in said that 'polecat is a purely colloquial name attached to the skunk or any animal possessing a foetid odor.' I don't know whether I like that 'foetid odor' remark or not, but any how the rest of it's O.K. In other words, 'cause the polecat has made such a bad name for himself and 'cause he don't smell so good to you folks, you call every bad-

(Continued on page 29)

An Old Stub

By Robert M. Stabler

FEW of us have the opportunity to lend Nature much of a helping hand; but we should always be ready and anxious to do whatever we can. The sportsmens' clubs of Pennsylvania have done a great job in building winter feeding shelters, scattering grain, and in general seeing that Pennsylvania's birds and mammals get an even break with Old Man Winter.

One April while checking over the nesting holes in some trees in my neighborhood in Wallingford, Penna., I came across a large, dead stub high up in a beautiful sycamore. On the side of the stub nearest the main trunk there was a nice, large, inviting hole, which I could not resist investigating. Up I went, and as the dead limb seemed secure enough, I let go of the main trunk, and concentrated on the hole. Much to my delight, a probing hand revealed a large nest-cavity occupied by a Screech Owl on four snow-white eggs.

My Biological Survey bands were in my pocket, and I prepared to draw the bird out for banding. Without a moment's warning, however, the stub made a loud crack, and began to break away from the tree. Wheeling like a cat, I desperately grabbed for the first thing in sight, which was a small limb about the size of my finger. It held me, dead limb and all! As I had reached for the small branch with my right hand, I had somehow closed my left fist in the owl hole, my hand then being too large to be withdrawn. Thus the stub was kept from falling. There I was, branch in one hand, stub on the other, me in the middle—what to do?

Realizing that the owl's fate rested on my clenched fist, I began to seek a solution to the problem. Finally I hit upon a scheme. Reaching as far as I could with my right foot, I hooked it into the crotch of a larger limb, thus freeing my right hand. Then I cautiously removed my belt. Wedging the buckle firmly into a crack in the stub's face, there was just enough belt left to make a temporary knot about the base of the limb that I had first desperately grabbed. Slowly I removed my left hand—the belt held! Stuffing my hat into the hole, I hurried out of the tree, and dashed home for some rope with which to more securely tie in the stub.



The Old Stub showing the nest-hole and the ropes.

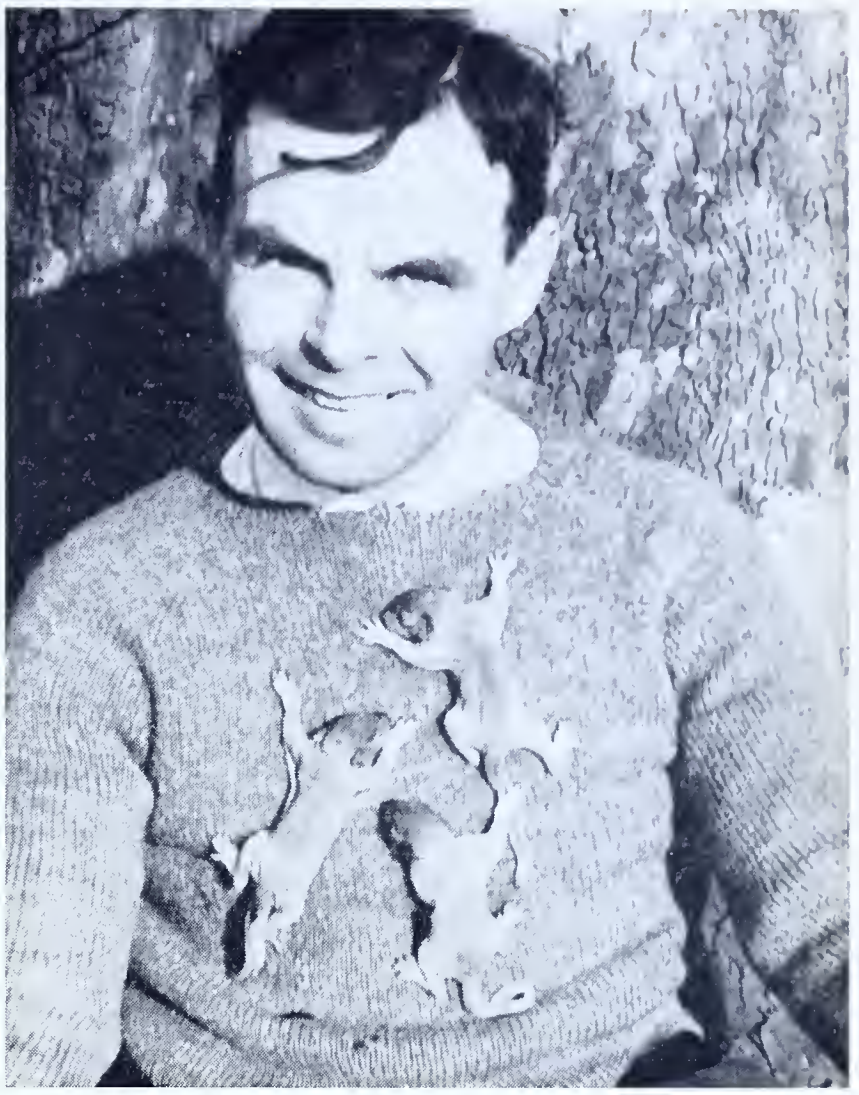
To make a long story short, my roping was successful, the owl was banded (37-509768), she continued to incubate, and three weeks later I had four little owls for banding (37-509769 to 72). The following fall, I got several odds and ends of rope and more securely tied in the stub, hoping that it would survive the winter.

Also in the same stub at the same time as the owls there was a nest of Starlings 18 inches below, and in the main trunk a nest of Flickers 15 feet below.

One day next spring when Deputy Game Protector Nelson D. Hoy was visiting me, we decided to revisit the sycamore. The ropes were well weathered, but the stub was in place, and up I went for an inspection. This time the cavity was filled with leaves, and my searching hand brought forth a squealing, squirming, baby grey squirrel, that had not as yet opened its eyes. There proved to be three of the little fellows, and their frightened squeaks brought a worried mother over from a nearby tree. Up she scurried, and scolded me with all her might from around the sides of the stub, only a few inches from where I stood. The male likewise put in an appearance, but, barking furiously, he would come no closer than some twenty feet from the base of the nest-tree.

Having my camera along, I decided to photograph the trio of babies, so stuffed them in my pockets and returned to terra firma. As the picture shows, they clung firmly enough to the front of Deputy Hoy's sweater, giving a nice shot. Then back to the nest with the little fellows, and off we hurried, accompanied by the vocal objections of both parents.

That fall I again tried to lash the stub in for the winter. It had gotten considerably more rotten at the base, however, and a hard January blow took it out, rope and all. But a few odd lengths of rope and a little labor had saved that old stub for two generations of wild creatures—I had lent a helping hand.



Deputy Game Protector Nelson D. Hoy with the three little squirrels.

★ ★ ★ CURRENT TOPICS ★ ★ ★

FATS FOR EXPLOSIVES

Fur dealers and rendering plants are being asked to cooperate in saving fats and deerskins again this year, and the Commission is hoping they will double their collections. Last year over 94 tons of fats were saved despite certain bottlenecks in the way of gas and tire rationing which prevented many fur dealers from contacting their local trappers as often as they would have liked to, and rendering plants from collecting the fats saved by the dealers.

To offset these difficulties the Commission this year appealed to the OPA in the hope that additional fuel could be made available, but without much success.

The need of fats for making explosives and deerskins for making leather equipment for the armed forces is *very great,* and the Federal Government has used *every channel of publicity at its command* in order to acquire these essential raw materials. It was based on this need that the Commission asked the OPA to make it possible for fur dealers to harvest this crop of raw materials. The Commission has gone the limit. It can do no more.

Some dealers have been asking the names of manufacturers to whom deerskins may be sold. Fortunately a list of such names was just received from Washington and we are incorporating it as follows:

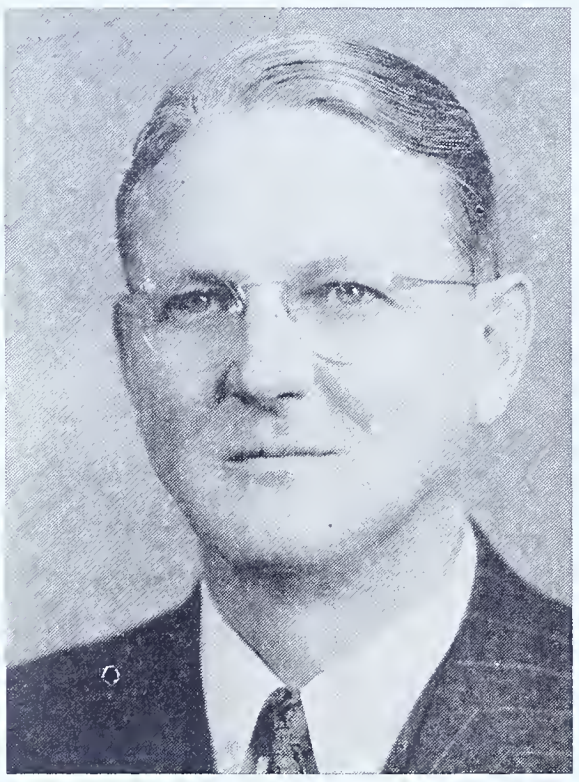
Cane Tanning Co., Gloversville, N. Y.
Jones & Naudin Co., Gloversville, N. Y.
Karg Bros., Johnstown, N. Y.
Warren Miller & Sons, Johnstown, N. Y.
Teetz McKay Leather Co., Johnstown, N. Y.
Mekes Feuer, 78 Cliff St., New York City, N. Y.
Meyer Hecht, Inc., 92-98 Cliff St., New York City, N. Y.
Herman Hollander, 154 Nassau St., New York City, N. Y.
Sarnac Glove Co., Littleton, New Hampshire.
Syracuse Rendering Co., 2621 Erie Blvd. East, Syracuse, N. Y.
Clearfield Taxidermy Co., Clearfield, Pa.
Howe Fur Co., Coopers Mills, Maine.
Snowiss Fur Co., 234 E. Third St., Williamsport, Pa.
Arts & Crafts Department, Phoenix Indian School, Phoenix, Arizona.

The Fish & Wildlife Service, which has been coordinating the deerskin salvaging program throughout the entire United States, has promised to notify us from time to time concerning any other manufacturers who are interested in purchasing hides, and to inform us immediately if any minimum or ceiling price is established by WPB. If and when this information becomes available we'll pass it right along to you. So far no minimum or ceiling price on deerskins has been established.

Another question which has been asked by fur dealers and others is whether a license or permit is required to purchase deerskins from hunters and to resell them.

(Continued on page 31)

PROMOTED



R. A. McCachran
Assistant Executive Director

"Mac," as he is affectionately known to his host of friends, was recently elevated to the position of Assistant Executive Director, a job for which he was drafted in 1941 following the death of Judd Turner, the former Assistant Director. He handled the position by assignment until just recently when his promotion was announced.

A lengthy and interesting career in the field of engineering, together with his long experience with the Commission, fits him admirably for his new responsibility which is actually in charge of all field units and operations.

Mr. McCachran graduated from Dickinson Preparatory School and Lafayette College with the degree of Civil Engineer, in which profession he was registered. During summer vacations he worked in this capacity with the Pennsylvania Railroad and immediately following graduation continued in this service during the construction of the tunnels under the East River, New York. Later he was employed by the Pennsylvania Department of Highways as a party chief, assistant district engineer, and superintendent of highway, following which he was associated for several years with a Highway Construction Company. Subsequently he entered private engineering practice with headquarters at Bloomsburg, Pa.

On August 1, 1930 he entered the employ of the Pennsylvania Game Commission in the capacity of Game Land Engineer, later becoming Assistant Director of the Bureau of Refuge and Lands and Assistant Chief of the Division of Lands.

He is a member of several engineering societies, fraternal organizations, etc., is active in civic and service groups, and for many years has been connected with the Boy Scout organization.

"Mac" is married and at present is living in Camp Hill. He has two sons, one serving in the Aleutian area with the 11th Bomber Command, the other in the Radio Branch of the Army Air Forces, Kansas City.

DEERSKINS

General Conservation Order M-310 issued June 23, 1943 by the War Production Board froze all deerskin leather except for military purposes, the only exception, as the Commission interprets it, being that any person who at no time *processes more than 25 deerskins* for commercial purposes *during any one calendar month* is exempted from the order, which *was amended on September 20, 1943* so that a skin taken off a deer after that date may be *processed for the owner's personal use or for a gift.* The War Production Board added this amendment as a liberal gesture toward those hunters who desire to have their deerskins made into some article for themselves, but urged them nonetheless *to forego such personal gratification during the present national crisis* and place their deerskins *in the channels of trade for military use.*

Under this amendment, taxidermists, may process deerskins for *as many individual hunters as should turn them over to them,* because in so doing they are commercializing only *on their work,* not *on the product,* and are therefore acting legally in accordance with the amended order.

A verbatim excerpt of that portion of M-310 pertaining to deerskins follows:

"(i) Deerskins—(1) Definition. 'Deerskin' means the skin of any domestic, Canadian or New Zealand deer, except elk, moose, caribou skins, and Alaska deerskins.

(2) No person shall process any deerskin or deerskin leather, except:

(i) To produce suitable leather meeting United States Quartermaster Corps Tentative Specifications CQD-105, as amended from time to time, in all respects except as to country of origin; or

(ii) To fill a specific military order.

(3) No person shall sell or deliver any deerskin leather, or incorporate or manufacture any deerskin leather into any product, except to fill a specific military order.

(4) Exceptions. The restrictions of the preceding paragraphs (2) and (3) shall not apply to:

(i) Any deerskin or deerskin leather which does not meet and cannot be made to meet the specification referred to in subparagraph (2) (i) above: Provided, That deviations from the specification as to color or country of origin shall not be considered cause for this exception within the meaning of this provision;

(ii) Deerskin leather rejected in writing by the United States Army Quartermaster Depot, Chicago, Illinois;

(iii) Deerskin leather colored black or dark brown before March 20, 1943;

(iv) Any person who at no time puts into process, splits, shaves, skives, sells, delivers or uses more than 25 deerskins during any calendar month beginning with March 1943, or causes more than 25 deerskins to be processed, split, shaved, skived, sold, delivered or used for his account during any such month.

(v) *A skin taken off a deer after September 20, 1943 and owned by the person causing it to be processed or incorporated into a product for his personal use or for a gift.*

(j) Effect on prior orders. Authorization to buy hides issued prior to June 23, 1943, under Conservation Order M-194 shall continue in effect until the expiration date therein provided or until expressly revoked."

DIRECTIONS FOR SKINNING AND PREPARING DEER HIDES FOR MARKET

Prepared in Fur Resources, Division of Wildlife Research

United States Department of the Interior
Fish and Wildlife Service

Skinning. Cut the skin lengthwise for about 3 or 4 inches just at the hock joint in both hind legs. Loosen the tendons in each leg and insert a pole, 3½ to 4 feet long, and pointed on both ends. This is called a gambrel. Then hoist the carcass on a limb of a tree, a crossbeam or on a tripod erected for the purpose. At the hock joint cut around the skin on each hind leg. Run the knife down along the inside of the leg to the cod or testicles. Skin out the hind legs carefully, using the knife skilfully. Pull the tail out of the skin as far as possible and then cut it off. Cut around the front legs a little above the knees and split the skin inside the legs up to the trunk of the body. Now cut the skin from the rectum to the end of the neck, through the crotch, over the stomach and breast. Begin at the hind legs now and skin the inside and outside of the thighs until the hind quarters are skinned. Then, with a sharp knife held nearly flat against the surface and the hide stretched tightly, remove the skin down over the sides with steady down strokes of the knife. It is important that the skin be stretched tightly, with no wrinkles in it. Care should be taken at all times to avoid cutting into the flesh or tearing the membrane covering it. If the meat is to be kept for any length of time, mould will form in such places and will be hard to clean off. Continue removing the hide to the back of the skull on the neck. Cut the hide from the carcass. Remove the head by cutting from just back of the jaws toward the depression back of the antlers. The atlas joint will be found at this point and may easily be unjointed with the knife.

Handling the hide. The hide of a deer or elk is valuable; gloves can be made; a vest or hunting jacket is not only practical but attractive. Pieces of meat and fat should be removed from the skin. If left on, it spoils readily and prevents the proper salting of the hide. Dirt, blood, and pieces of flesh can be removed by scraping the hide with the back of a knife, and by careful cutting. Allow the hide to lose its animal heat before applying salt. When the hide has cooled sufficiently, spread it hair side down, being sure to straighten out all folds and laps. It can also be hung on a pole, flesh side out, to cool. In a few hours the hide can be rubbed with salt. Then spread out the hide flesh side up in a dry place for salting. Select a location that has a slight incline so that brine will drain away properly. The place selected should be protected from rain and water where the hide can remain for one or two weeks undisturbed. A wooden platform is excellent for this purpose.

Cover thoroughly every part of the skin with salt. Rub the salt over the skin, especially into the folds and creases. Cover the salted skin with paper so it will not dry out too rapidly. After eight to ten days shake off the salt, add a little fresh salt if certain parts of the skin are not well preserved. Then wrap the hide, hair side out, in a small bundle and tie securely with heavy cord or small rope. Do not keep the bundled hide longer than necessary or let it get wet, for water will wash out the salt and decomposition will set in. Ship it at once to a hide dealer or the tannery, as the case may be.

When you're hunting for game, better take d—m good aim
Fill the "pot" with each shot! That's our motto!
A new bullet or shell will be scarce as all h—l
Till those "Japrats" and "Nastys" we *BLOTTO!*
W. F. Hook Townsend, Assistant Secretary Perkiomen Valley Sportsmen's Association, Schwenksville, Pa.

HOW TO PREPARE GAME

Since not all hunters are experts at taking care of and cutting up their meat, the U. S. Fish and Wildlife Service has just issued a new leaflet which tells how to keep game in the best possible condition. The leaflet, "Save Game Meat—It is Valuable" can be obtained free on request.

The leaflet gives recipes for preserving game and also discusses canning and freezing, now the most popular method of keeping game in good condition. Suggestions are given on methods of shooting, draining, cleaning, cooling, and transporting game, as are instructions as to the care of hides which are to be turned over to collection stations for use in the war effort. The leaflet may be obtained by addressing the Fish and Wildlife Service, Chicago 54, Illinois.



Photo Allentown Morning Call

Howard Rabert is shown above (center) with the deer head which won the 1942 prize in the Lehigh County Fish and Game Ass'n. contest. On the left is Larry Knoblach, president, and on the right is State Senator O. J. Tallman, Master of Ceremonies.



The four Grim brothers of Dallastown and deer they bagged last hunting season. The animals were killed in Clinton County and the brothers are members of the Camp Nelson Hunting Club.

NOTES FROM THE FIELD

"On October 9 while patrolling in our thickly wooded section of Salford Township, Montgomery County, checking hunters and putting up fire signs I heard a dog barking. I followed the sound and found an old female dog and six pups about six weeks old. They had their home in a brush pile. I tried to get the outfit alive but the old dog would charge me as I approached the young and I had to kill her."—Game Protector Ambrose Gerhart, Souderton, Pa.

"On September 23 while patrolling in the vicinity of the Woodside Park near Bethany, Wayne County, I noticed a grouse which was apparently sick or had been injured. I finally caught and killed this grouse and upon examination found it to be literally covered with wood ticks. This is the first time I ever observed this condition and I am satisfied that the bird could have lived only a short time.

"I believe it would be well worth the time and effort of the field men to pile and burn quantities of dead wood throughout the forest areas to provide ash piles for dusting places for grouse. This work should be done early in the Spring before there is any danger of forest fires."—Game Protector Maynard R. Miller, Districts 3 and 6, Division "B".

"During October I took five grouse from the city of Johnstown—four killed by flying through windows and one into a building."—Game Protector Elmer B. Thompson, District 9, Division "G".

"While patrolling State Game Lands No. 197 I saw six woodcock. They were feeding under apple trees and hawthorne bushes. It seems to me they were much larger than any woodcock I have ever seen.

"One day last week while patrolling State Game Lands No. 29 I saw seventeen deer. All were antlerless and one was white.

"On October 13, someone was very careless with their matches or so it seems. Anyway it resulted in a forest fire on State Game Lands No. 86. This fire burned over an area of about five hundred acres of game lands. It was a very hard burn and most of the trees will die. That night the wind was blowing a gale and throwing fire ahead of it for a hundred feet. It traveled along the ground about as fast as a person could walk. About 3:30 A.M. it started to rain and there were about thirty men plenty willing to take a ducking."—Game Protector George H. Burdick, Group 4, Division "F."

"Game Protector L. E. Sheaffer and I did a lot of night patrolling for spotlighters and finally apprehended two fellows out of a party of four in Wharton Township in Fayette County. Two members of the hunting party escaped. One Chevrolet pick-up truck, two rifles and other equipment, and one small buck deer which they had killed were seized. The defendants were given a hearing before Alderman Smith in Uniontown and were found guilty on three charges. They were fined $225. each. Their attorney stated that an appeal would be filed."—Game Protector H. D. Carroll, Group 4, Division "G."

"While cruising timber on sample plots on G.L. No. 25 on October 18, I was standing in a plot of small white ash estimating heights, etc., when a flock of feeding turkeys came into view. I stood quietly and they fed right toward me. I was surprised at the speed with which the feeding flock passed over the area. I tried several times to count the birds, but they shifted and moved around so freely that an accurate count was not possible. I counted above twenty-five turkeys several times, but could not be sure that I was not getting mixed after that. I know that there were more than twenty-five, possibly more than thirty. They were feeding on white ash keys and gave the ground under some black cherry trees a real working over."—Game Protector L. B. Rosenkrans, Group 2, Division "E."

"This month I released nineteen pheasants from a holding pen on the refuge on G.L. No. 85. A week after releasing the birds and while patrolling the area I noticed pheasant feathers in several fox droppings. Since then I have noticed very few of the birds released on that area. A farmer living nearby reported that a fox had killed fourteen chickens. I put out several traps and the next day had a 13 lb. fox in one of them."—Game Protector Elmer D. Simpson, Group 2, Division "F."

"On October 23 one of the largest bucks I have ever seen was killed on the B. & O. Railroad between Ohio and Connelsville. It was a 15-point buck and would have weighed approximately 200 pounds."—Game Protector Lester E. Sheaffer, District 14, Division "G."

"With my timber cruising, pre-season patrols and duck hunting I have noticed many active beaver dams. From the cuttings and work around them it looks as if we will have a good trapping season. Many of the dams that were trapped last year are being used. I don't believe they reduced them very much. I have one dam in a refuge where they are working hard. It is on a small stream and not much food available. They are dragging aspen sticks and logs on dry land for over 100 yards to reach their house and dam. I have also located two new dams this year, one being in a game refuge.—Game Protector Clyde W. Decker, District 7, Division "E."

"The deer situation on U. S. Route No. 6 along Pine Creek between Ansonia and Gaines has become serious, eleven deer having been killed by trucks, buses and autos on this nine miles of road during the week of October 17."—Game Protector Hugh E. Baker, Group 1, Division "C."

"While patrolling on Sunday, October 31, along the Forest and Elk County line I noticed the hunting camp of D. N. Moore, Meadville, Pa., somewhat disturbed. Upon investigation I found that a bear had torn the siding off of a space about four feet square in order to obtain honey that some bees had stored in between the studding."—Game Protector Lester J. Haney, District 9, Division "E."

"On October 20, assisted by Division Supervisor Bell, we performed a post-mortem on an illegally killed deer in search for the bullet. In following the course of the bullet, we found that it had perforated the gullet of the deer just above the stomach entrance. At this point we observed a hard object in the gullet and opened it to investigate. We found an object approximately 1½" wide, 3" long and ¼" thick, semicircular in shape. It was lodged at the entrance to the stomach and more than half encircled the gullet at this point forming a semicircular collar. The rough edges, ends and sides were covered with a protective coating of white enamel like substance worn smooth, likely by the passage of food. Our interest led us to cut into the object to determine its composition. It was found to be a piece of very hard leather, apparently harness leather. It is our supposition that the deer probably swallowed this object because of the salt in the animal sweat which it very likely contained. It had the appearance of having been in this part of the deer's anatomy for some time."—Game Protector Rodman C. Case, District 3, Division "C."

"On the morning of October 19, 1943, about 3 A.M., Game Protector Crosby was contacted by the Pennsylvania Railroad officials in regard to one of their trains having struck and killed a large bear in the vicinity of Ralston, McIntyre Township, Lycoming County. Crosby proceeded to the spot to make an investigation and found that the train, apparently going quite fast, had hit and badly mangled a large male bear. As Crosby put it "the bear came out second best in the contest." Its hind quarters were found on one side of the tracks approximately 45 yards below where the head and front quarters were found on the other side of the tracks.

"Judging from the size of the animal's head, which remained intact, some of its feet, and its remains in general. Mr. Crosby estimated the bear would weigh at least 350 pounds. The mangled entrails of the animal bore evidence that bruin had recently feasted on a farmer's corn. Game Protector Crosby further stated that in the many years of his experience in the bear country that this is the first instance he has ever known of a bear being killed by a train."—Field Division Supervisor Thomas F. Bell, Division "C"

"I had a chance to observe the habits of the woodcock closely at my headquarters recently and it was quite educational and interesting. I had not seen a woodcock for weeks in my work in the field doubtless because all the marshes were dried up from the extended drought. On September 28 just before dusk I saw a woodcock near a pile of rotted manure near the barn. As I approached it did not fly but walked away a few feet and sat down and watched me. I chased it to see if it could fly and it flew away about 15 yards. When I went back a little later it was there again, and the next night again about dusk it came and appeared to work the manure pile for angleworms.

(Continued on page 25)

GOOD COPY

Good copy is copy that functions efficiently in the particular field for which it must cover. Bob Ekvall writes letters that insure good attendance at the Carrick Sportsmen's Club's jamborees, which are nothing more or less than open air picnics with trapshooting on the side.

Here's a sample of what we consider good copy—although grammarians and masters of style and diction may turn their noses up snooty:

CARRICK SPORTSMEN'S CLUB

Dear Friend:

This last Thursday night, I pulls up to our cabin in good old Brookline, shuts off the family coffee grinder and heads for my old slumber box. I'm all in from a hard day in the mines, (local 5, C.I.O.)—and anxious for some shut-eye. No sooner do I kick off my moccasins and start up the ladder to roost when the Don Ameche Box in the corner makes with lots of jingling, wakes my ever-loving and jars our second edition from her True Story trance. I mumbles into the end with the strainer on it and says, "Go on, start something, it's your idea." The other end, fooled by my politeness, says,

"Hi there, boy, is it too late to call you." With both eyes closed I guarantee it's O.K. but I'd just as soon use him for a blue rock, I figure, with a field load too. Who is it, you ask, why it's "Hundred Straight" Smitty, our Prez. Remember him * * * Then he says, "What kind of a guy are you, Robert, (He calls me that when he's being official), you write a letter and get all the over-age and draft exempt guys out to Club Meeting but don't show up yourself." I express my humiliation but say I was in the hills of West Virginy that night, so he continues:

"Next Sunday, the 15th, from noon on, we're having a brawl, but desiring the higher class people, it will be called a Picnic. Music for that romantic rasslin' called Dancing, Bingo for those with a gambling streak in them, liquid refreshments for the thirsty, out under the Apple Tree, plenty of Hot Dogs with mustard for eats. All other fodder better be brought in a basket as we ain't got the pernts. Best news of all though, we'll have plenty of 10 Bird Events for nice plump roasting hens. (No points needed, just straight shooting). The Brentwood Bus lines run regular to Gardenville and Baptist, all day and a big Bus, for us special, will leave that corner at 9:00 P.M. to take the gang home. This will be the best shindig we've ever tossed and anybody that stays away is a sabotager, or something." Then he says, "Good night and sweet dreams sonny boy, all you got to do is write the guys a letter and tell them all this." I tells him I'm not sure I can get it all on one page and hangs up.

Anyhow, I'm not going to send youse no letter about it, because if you won't come out after what Smitty told me, I couldn't do no good by mail. I hope you'll be there 'cause I will if I have to stand under the Apple Tree alone.

Regards, BOB EKVALL.

Reprinted from Nov. 1943 *Typo Graphic.*



Times Staff Photo

Ration books were left at home when the Berks County Izaak Waltons gathered for their annual small game dinner on November 9. Seth Gordon, Executive Director of the Pennsylvania Game Commission, is putting the knife to a juicy, tender turkey. Looking on and with their mouths watering, are, left to right, Levin D. Schearer, president of the Berks County Chapter; R. A. McCachran, assistant executive director of the Game Commission, and John P. Deck, president of the Pennsylvania Division of the Izaak Walton League of America. About 100 members enjoyed the dinner.

☆ ☆ WITH THOSE IN THE SERVICE ☆ ☆

"Just received the August issue of the GAME NEWS and I'm telling you it was a mighty welcome piece of mail, even though it did make me quite homesick. It was the first copy I received since leaving Mississippi.

"I have just completed another long journey and am now deep in the jungles of India. Quite a place for an M.P. huh? There are plenty of bugs, leeches, etc., and occasionally the monkies pay us a nite visit to our tents.

"From now on I'll be looking for the GAME NEWS regularly and eagerly.

"Please give my best to all the force and I'll be glad to hear from them anytime.

"P.S. If you were with me you surely could have had some fun with your camera." —Pfc. John S. Shuler, Co. B, 502nd M.P. Bn., 1st Plt., A.P.O. 689, c/o Postmaster, New York, New York.

"Many thanks for the pictorial 'V' letter of 11th October sketched by Gordon Krieble and reproduced by Mackey. It is good to receive these messages from home!

"Have managed to get 4½ days shooting since August, on grouse, pheasant, snipe, hare and rabbits, and had some good sport.

"Meantime, the shooting continues in Europe, and we are working hard to keep the troops and supplies moving. It is often long and tiresome work, but it is the job that has been assigned to us, and we are doing all we can to help end this confounded war.

"Very best regards to you and the men of your Department."—Lt. Col. Nicholas Biddle, Inspector General, Port Hq., A.P.O. 506, c/o Postmaster, New York, New York.

"Yesterday was a hard one to not be out in "Penn's Woods" checking the opening day hunters. Although I couldn't be there my thoughts were. I know the men left are doing a wonderful job of protection and land management."—Corp. Louis D. Mostoller, 855th Ord. (H.A.M.) Co., A.P.O. 4915, c/o Postmaster, New York, New York.

"I have been rather busy the past few weeks and had the pleasure of being on the field again. They have extended the training period 4 weeks, so that allows us an extra month to teach the gun mechanics practical work on the field.

"During the past week I saw 11 deer. Only wish I had time to study their diet.

"Tell all my friends that I am fine and still get plenty to eat."—Sgt. Roy W. Trexler, C-13-4, FARC, Ft. Bragg, North Carolina.

Congratulations to First Lieutenant Henry Schell, formerly of the Division of Public Information. "Hank" as everybody knew him was recently elevated to the rank of Captain and became the father of a baby daughter for good measure, or should it be vice versa?



Dr. Logan J. Bennett, Leader of the Pa. Cooperative Wildlife Research Unit, recently commissioned as a Lt. (j.g.) in the U. S. Navy Medical Corps.

Dr. Bennett came to Pa. in March, 1938, as Leader of the Research Unit. Before coming to Pa. he was Leader of the Iowa Cooperative Wildlife Research Unit. He received his doctor's degree in 1937 in Wildlife Management at the Iowa State College. He has publishcd many scientific and popular articles on wildlife. His best known publication is "The Blue-Winged Teal. Its Ecology and Management" published in 1938 by the Collegiate Press Inc., at Ames, Iowa.

Sergeant "Bill" Overturf left us in on a little secret the other day. He wrote "wonder if the folks in Pennsylvania really appreciate the hunter's paradise they have. Here on the reservation (Fort Benning, Ga.) we see a few quail and occasionally a scrawny rabbit. Some places there are wild turkeys. Raccoons and opossums are plentiful and do they go for the persimmons. This should be a quail paradise but my guess is that the raccoons take a heavy toll of them. We have enough hickorynuts on the reservation to feed all the squirrels in the State of Pennsylvania and yet squirrels are far from plentiful.

NOTICE!

To Subscribers in the Service.

WHEN YOU MAKE ANY CHANGE IN MAILING ADDRESS, PLEASE ADVISE THIS OFFICE PROMPTLY, GIVING THE FORMER ADDRESS AS WELL AS THE NEW. THIS WILL HELP US TO GET YOUR MAGAZINE TO YOU WITHOUT DELAY.

"One evening I would have liked to have had "Bring 'em back alive" studholme with me. Was going to the movie and while walking across the street to the theatre I saw a snake wriggling across the path. Carefully edging up to it I noted it was a copperhead. If "Stud" had been along we would have captured it alive, but he wasn't so I finished it with a well directed stone. Everybody in line rushed over to see it. There is a hedge around the theatre and evidently when the lights came on the reptile was roused from its lethargy. It was cold that night and it wasn't very lively.

"All my brothers are in the service now so the family is pretty well represented. One is in the Marines in the South Pacific. One is in the Navy somewhere on the Pacific, and my oldest brother who enlisted at 41 is in the army at Camp VanDorn, Miss Some day, I hope soon, we are going to have a family reunion."—So do we Bill.

Just had a nice little note from Corporal "Clint" Ganster, somewhere in England. He said he was a little homesick as November started rolling around, but we can't blame him for that.

Who walked into the office the other day, home on furlough, but that tall rangy buckaroo who used to drill the boys at the Training School. Know him? Sure, none other than Lt. "Bob" Lichtenberger. Bob's still at the same old address, Department of Criminal Investigation, Provost Marshal General's School, Fort Custer, Michigan.

"The location is the now common and general designation, 'Somewhere in North Africa.' Contrary to my expectations it has been neither hot nor dry since my arrival here a short time ago. Short in terms of months but seeming much longer because I have not heard any reports from home or Pa., which is inclusive enough to mean home to me right now.

"Naturally the schedule is almost completely occupied. As a result there isn't much time left for exploration and seeing as much of the country as I would like to. The general observations have been very interesting and enlightening and many false impressions have been brought to light.

"Sorry that restrictions prevent me from giving you a more definite and comprehensive picture of the life in this new country. Everything is going along very satisfactorily over here and I trust that the work of the Commission is still progressing."—Corp. Daniel H. Fackler, Base Headquarters, A.G. Section, APO 763, c/o Postmaster, New York,

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Dr. George M. Sutton, former Chief of the Bureau of Research & Information, has been commissioned a Captain in the Army Air Corps Intelligence.

NOTES FROM THE FIELD

(Continued from page 23)

It was still there after the first two days of the woodcock season and appears to regard me as a good friend for it is not the least afraid of me."—Game Protector Edward L. Shields, District 6, Division "E".

Stolen: Shotgun—model 12 Winchester pump gun, serial No. 726,108, equipped with new Poly-choke; revolver—Smith & Wesson, K-22 .22 Cal., Serial No. 657,548 and rifle—Winchester Model 94 carbine, serial number unknown. Anyone having any information concerning these guns should contact W. P. Rieden, 815 Maytide St., Pittsburgh.

"You will recall beginning two years ago last spring, I attempted to develop a lot at my cabins in which to grow a garden. As you perhaps know these cabins are in Green's Valley, less than one mile off the highway on the old Green's Valley road, and I was told that because of the game being destructive I would not be able to grow any vegetables. The facts are I have had two successful crops and the amount of damage done by game is not worth mentioning. One thing that I have learned that may be of interest, at least it was to me, is that a great deal of destruction accredited to rabbits was really done by groundhogs.

"One of the precautions I took from the beginning which has worked out very successfully was to plant a border all around the garden of soy beans. As you know soy beans are very beneficial to the ground and furnish excellent feed for rabbits, groundhogs, etc., and if they fill up on these they will not feel hungry when they go into the garden."—Mr. G. I. Purnell, 135 West Linn Street, Bellefonte.

"Mr. Harry Willow of Johnsonburg, who takes great pride in his flock of New Hampshire Red chickens, related to me an unusual experience.

"Upon going to feed his flock on the morning of September fifteenth, he found one of his hens dead. Upon examination he found that the head had been completely severed. Thinking that a cat or some other animal had got in he set a trap with bait. The next morning he found another hen with the head missing. One of the eight by ten panes of glass in the window was broken out and thinking that was how the intruder got in, he set a trap on the sill. The next morning he had a great horned owl by one toe. The owl measured forty inches from the tip of one wing to the tip of the other.

"The unusual thing about this is that Mr. Willow lives in the heart of the residential district of West Johnsonburg and his chickens are kept under roof at all times.—Lloyd Sallack, Deputy Game Protector, District E5, Johnsonburg, Penna.

"On Saturday, October 23, I apprehended a man 83 years old hunting rabbits. He had 5 shells in a Winchester pump gun and the safety off. He shuffled along and was trying to see one setting, but his years were obviously against him. I chastised him and directed him to go home and violate no more. Fifteen minutes later I heard a shot in a small woods nearby and upon investgation found his 75 year old brother hunting squirrels. He was more agile than his elder brother, and having shot at a squirrel I imposed a ten dollar fine upon him. These men were accustomed to getting a few pieces of game each year before the season opened, and for years had never been caught. Theirs was a long lane, but it ended."—Game Protector W. W. Britton, District 12, Division "D".

"On October 7 when I came home I heard a young rabbit squealing in a large rock pile near the barn. As I got out of the car I saw the old rabbit run towards the rock pile, but when she saw me she hustled for better cover. On further investigation I could see the young rabbit and as I unpiled some rocks to get to him whatever creature had hold of him let go for he stopped his squealing and was freed. Although I did not see the other animal, I assumed it was a weasel. The young rabbit crawled too far into the rock pile so I had to abandon hopes of getting it. Then on October 14 the dog came in with a partially decayed young rabbit whose tarsus measured 47 millimeters. On checking with John Beule, former Pittman-Robertson man at the Experiment Station, and now in the Army, I was informed that the young rabbit was about 14 days old at time of death. Checking the calendar showed that it was born during the last week in September which is an unusually late date for rabbits to be born, if not a new record."—John R. Langenbach, Division "C."

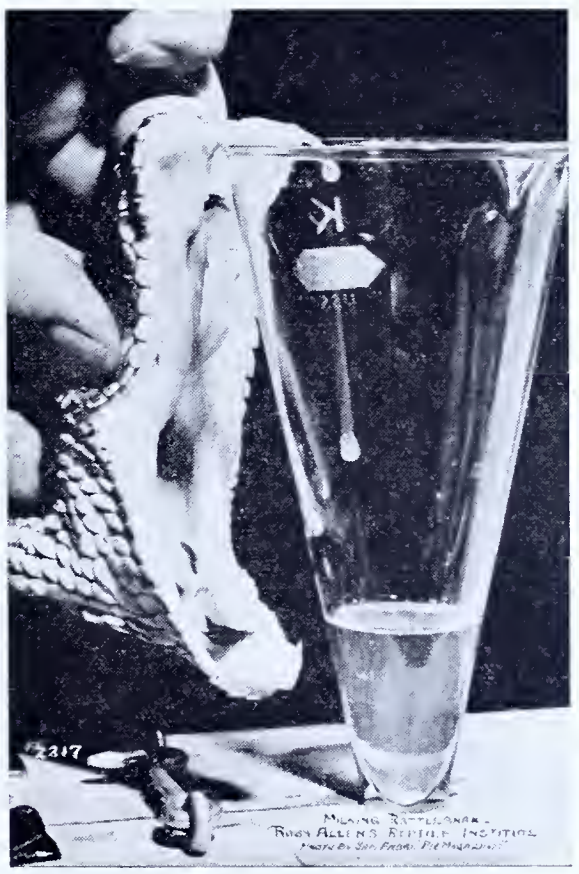


Photo by Sam Andre "Pic Magazine"
Milking Rattlesnake, Ross Allen's Reptile Institute.

With the opening of the small game hunting season on October 30, C. E. Stubbs, Bell Telephone Company employee, observed the occasion with the following bit of poetry:

Listen, ye hunters, and you shall hear
Of a thing which happens this time of year,
When men go out at the break of morn
To hunt small game in the shocks of corn.
For some strange reason we know not of,
The birds you hunt all dearly love
To fly or sit near a telephone wire—
(Or get one into your line of fire.)

Now, when that bird is on the spot,
We know you hate to miss that shot.
But, brother, please, when you see a wire,
Think it over before you fire!

One shot in a cable overhead
And a dozen telephone lines go dead—
A dozen telephone lines or more,
Carrying words to speed the war!
Calls to war plants from Washington,
Calls to help get a Victory won!
Or maybe a call from a soldier lad—
His last call home to Mother and Dad.
Listen, mister, do *you* call it sport
To cut that soldier's last call *short*?

"At our September meeting I made a suggestion to the Association that we give a one year subscription to the GAME NEWS or *Angler* to all paid and honorary members for the ensuing association year, each member to choose his magazine. The club adopted the plan and while it has caused me lots of additional work in preparing the list aside from the usual membership records, I think the club deserves a booster."—Donald C. Graybill, Secretary, Southern Lancaster County Farmer-Sportsmen's Association. Good going fellows.

New York deer hunters who are successful during the open season are required to report their "take" by registered mail to the Conservation Department in Albany within five days after the close of the open season. For antlerless deer taken in the Adirondack Counties the final day for reporting is October 30, while buck deer killed during the Adirondack season must be reported no later than December 5.

This war, like all others, will end. Others will follow. With history repeating itself, this is practically a foregone conclusion. When it does end, however, it is hoped that Americans will continue to retain their constitutional right, not only for the defense of their private homes, but also for the defense of their nation, as it has during the existing emergency.

It is claimed that Japan planned to drug its potential enemies with opium and other dope. Such unfortunates, armed with firearms, would still be dangerous in the event of war. But a citizenry without a shotgun, rifle or pistol, is much more helpless. So, look with suspicion upon any person who would take away those weapons.

Our Deer—Past, Present and Future

(Continued from page 5)



A fawn should weigh 75 to 80 pounds by deer season.

purely humanitarian standpoint. Some killed perhaps twenty to thirty or more deer in one growing season, but the damage went on unabated and the farmer tired of this ceaseless killing as well as tiring of vension.

The critics talk of deer-proof fences, electric fences, control by chemicals and other means, but the effectiveness of many of these control methods has yet to be proven and the construction expense is prohibitive to the majority of the farmers in the mountainous districts.

Crop damage was by no means limited to the cereal grains. The orchardist had difficulty starting young trees without fencing and he lost considerable quantities of apples both in the lower branches of the trees and on the ground. The truck gardener has found that deer would readily eat almost every vegetable in his fields, perhaps with the exception of onions. Deer have learned to dig potatoes out of the ground with their hooves and devour them in quantities. Soy beans are a delicacy and corn left in the shock would soon have all the outside ears eaten. The hay crops appeared to suffer the least and many of the farmers turned to sheep and cattle raising. Thus, the overabundance of deer has meant a complete economic change to the farmers in the forested areas of Pennsylvania.

The third ill-effect from the deer is of direct interest to the small game hunters. Through field study it has been ascertained that an abundance of one game species may result in the comparative scarcity of another or several other species using the same range, but unable to compete with the more abundant species for the existing food supply. Probably the most seriously affected single species is the cottontail rabbit. The food habits of the deer and rabbit are nearly identical and because the deer is capable of eating any browse on or near the ground, it has, in most mountainous regions, taken nearly all the food within the rabbits reach, resulting in the gradual disappearance of the cottontail and the snowshoe. Further, while the deer are eating and killing the underbrush to a height of about five feet this is robbing the small game, the cottontail, the ruffed grouse, and the wild turkey, of essential cover to protect them from the predatory birds and mammals, as well as a source of food in the form of berries, small fruits, and seeds. To illustrate the effects of deer upon rabbit populations, the writer can cite two very outstanding examples. In the north-central part of the state an area comprising approximately 1200 acres was inclosed with a deer proof fence. For the first few years no deer were in the enclosure and the rabbits prospered and the overseer reported seeing twenty to thirty rabbits on the one mile length of road in the area, almost any evening. Then a few deer were stocked in the inclosure, and for the first two or three years the rabbits appeared to be holding their own. Then, as the deer increased the rabbits began to disappear until finally the deer reached a saturation point where even they had to be artifically fed. At that time the overseer reported that for six weeks at a time he would not see one rabbit on the same stretch of road. During this entire period there was no hunting of any kind within the inclosure.

In another instance approximately fifty deer were placed in a newly fenced fifty acre plot that had always held a considerable quantity of rabbits. This time there appeared to be little change in the rabbit population over the first winter but by the second winter the natural browse was gone, and, although most of the rabbits apparently moved out of the area, a very few remained and these existed by barking several trees up to eight inches in diameter, including basswoods, soft maples, black elders, witch



Bracken, laurel, rhododendron and hemlock are nearly valueless as deer food.

hazels, and the heavy butts of a number of wild grape vines. This browsing was decidedly unusual and undoubtedly resulted from the rabbit's desperate attempts to prevent starvation.

Squirrels, depending mainly on the mast crops (acorns, beechnuts, and the various hard-shelled nuts) for foods, are hard-pressed to find sustenance to hold them over the winter and early spring, because by mid-winter the deer have already eaten nearly the entire supply.

It is evident, therefore, that all the forest dwelling small game species are in some degree affected by the concentrations of deer. This fact can be more clearly indicated by reference to deer population statistics for the state. If the total forested acreage of the state is divided by the estimated total number of deer in 1938 (600,000 to 750,000), this results in a figure of one deer to every twenty to thirty acres. Considering the fact that the deer are not evenly distributed, in many sections the acres-per-deer ratio may be even less than twenty to one. From these figures it can be more readily understood how deer have become a decided food and cover limiting factor.

The fourth ill-effect concerns the well-being of the deer herd itself. Each February and March hundreds or thousands of deer, depending upon the severity of the winter, have starved to death, since our forests have reached the low food producing pole stage. This loss is not important as a seriously decimating factor to the herd but does represent a decided waste of a natural resource, not only of many tons of meat but also a deprivation of much additional recreation. The shooting of 175,000 deer in one season, the approximate number for each of the past two state-wide anterless periods, has greatly alleviated this loss through starvation. In Eastern Canada and Maine where the deer population is of a size commensurable with the available food supply, winter loss is negligible in spite of lower temperatures and deeper snows. There, however, both sexes are hunted annually.

Consider the effects of an epidemic of some highly contagious disease in our physically below-par herd in late winter or early spring. In a matter of a few weeks the population could be easily reduced to a few hundred animals or perhaps entirely destroyed. This may never happen, and let us hope it never will, but it still remains a constant threat, and a factor to be taken into consideration when planning deer management policies.

DEER SEASONS

Bucks, all counties, Nov. 29-Dec. 11.

Anterless deer in Cameron, Lycoming, McKean, Potter, Sullivan, Tioga and Warren Counties, Dec. 13, 14 and 15.

Originally Clinton County was also declared open to antlerless deer but hunters there succeeded in having it abrogated by submitting a valid petition containing over 50 percent of licensed hunters in the county.

Cameron, Potter and Tioga Counties also tried to annul the season but their petitions lacked the minimum requirement of signers after some withdrew and others were disqualified.



Food conditions like this will keep the deer away from the farmer's fields.

Besides the instances wherein an excessively abundant deer herd constitutes a menace, there are other occasions when their presence renders them a nuisance. Each year there are hundreds of deer struck by automobiles on the highways. Many of these accidents result in damage to the automobile and injury to the occupants and in some instances has been the direct cause of highway fatalities.

Not uncommonly, deer venture into the towns and cities situated in the better deer counties and once frightened run rampant, often breaking large store-front glass and doing other damage of similar nature.

In recent years the fox and rabbit hunters have had to break their hounds from running deer even in counties outside the true deer range and near the large cities. This is a difficult task as the scent of a deer is much stronger than that of a fox or rabbit and the hounds will even leave the trail of the smaller animals to take that of the deer.

In the early spring the trout fishermen often have complained bitterly about the many dead deer lying along the mountain streams, as the odor from these at times drove the weaker-stomached individuals from the stream. Deer also died on watersheds supplying towns and cities with their public water supply and it was necessary to remove or burn these animals.

The ease with which a deer could be "jacklighted" at night led many persons to disobey the law that would not have otherwise if this killing necessitated the expenditure of more time and effort.

Pennsylvania deer have proven themselves to be a source of irritation in many minor ways, only a few of which have been mentioned.

In a brief summary, deer are definitely a boon to the Commonwealth of Pennsylvania as an invaluable source of recreation and a picturesque addition to Pennsylvania's mountain scenery. However, due to an over-abundance of deer in relation to the greatly depleted supply of natural food, this graceful animal of the forest has become an economic problem. Its destruction of the natural succession in the forests, its damage to various agricultural crops, its deleterious effects upon the forest dwelling small game, and its creation of many minor problems have clearly shown the need for a drastic herd reduction to a point commensurable with the food supply. If this desirable status has been attained, the destructiveness of the herd should be greatly reduced and the deer hunter will benefit in that once again hunting deer will become a man's sport, requiring skill and physical ruggedness. Because of the greater amount of available food per animal, the body weight and antler size will increase, making a finer trophy. Small game in the mountains may again become abundant.

We all agree that deer should permanently inhabit Penn's Woods, but, for the ultimate good of both the deer and the people, the herd will have to be maintained at a reduced size, until once again through statewide lumbering the food supply will permit an increase in numbers.

During the year ending June 30, 1942, $13,921,974 was paid for hunting licenses by 8,532,354 hunters, according to the U. S. Fish and Wildlife Service. Of this total 90,794 were non-residents or aliens. In the year previous the total number of licenses issued was 7,924,822, an increase of some 600,000.

In the total number of licenses issued Michigan was the highest with 846,869; Pennsylvania, 687,153; Ohio, 614,106; New York, 612,911. The total for Iowa was 232,027; Missouri, 215,393; South Dakota, 108,773. The total revenue was almost $14,000,000, plus $1,437,220.

Wildlife Conservation—Its Past . . .

(Continued from page 9)

Much of the pollution is neither necessary nor excusable in the light of man's present knowledge and ability to take adequate care of wastes, and to render them innoxious before their discharge into any stream or body of water. Some of the industries which insist on dumping their wastes into streams, and plead that such practices are necessary, may often be of infinitely less value to a community than the unpolluted stream would be. Water is of vital importance to all living things and without it life would be impossible. It is one of our most precious assets or it can be one of our most heartless masters.

VI. The Importance of Plant Life

Without plants no animal life could exist upon the earth's surface. Green plants alone have the ability to make food out of organic matter. Animals of all kinds, including man, are dependent upon plants for use of all their food. With all of man's knowledge of chemistry and his almost amazing creative ability he has never been able to make even a single ounce of food from the basic, inorganic elements. This secret is still locked up in the green leaf. We know a great deal about what takes place there but apparently we don't know just exactly how it is done.

The green parts of plants are green because their cells contain a green pigment known as *chlorophyll*. This pigment is not scattered throughout the cells but is contained in little bodies in the cells which are known as *chloroplasts*. Now the green leaves, and the other green parts of plants, are in a way "food factories." These little chloroplasts constitute the machinery of the plant "food factory." We all are aware of the fact that energy of some sort is required in order to run a machine of any kind. Man has often used his own energy, the energy of other animals, of waterfalls, steam, electricity, or explosives to run his machinery. The source of the energy used in the plant "food factory" is one which man has scarcely yet been able to harness and use; it is the energy of sunlight. We also know that any factory must have raw materials from which the finished product is made and that there are certain left-over waste products, or bi-products, which result from the process of manufacturing. All of this is equally true of the plant "food factory." One of the raw materials used in the manufacture of food is a gas taken out of the air. This gas is called *carbon dioxide* and each tiny particle of it, known as *molecules*, consists of one atom of carbon united chemically with two atoms of oxygen. Carbon dioxide exists in the atmosphere in the proportions of three parts in every ten thousand. This gas is given off by all animals during the process of respiration, or breathing.

Another of the raw materials utilized is familiar to all of us; it is nothing more than water which is derived from the soil by the plants. Water is composed of two atoms of hydrogen chemically united with an atom of oxygen. In the plant "food factory" these two raw materials are broken down and reconstructed in the form of sugars and starches. These consist of various combinations of carbon, hydrogen, and oxygen atoms and are known as the *carbohydrates*. In the process of food making, which is called *photosynthesis* (to build up by the means of light), the waste material is the gas oxygen which is essential to all animal life both on the land and in the waters. This important bi-product is returned to the atmosphere, or absorbed by the water in the case of the aquatic plants, and thereby made available for use by animals.

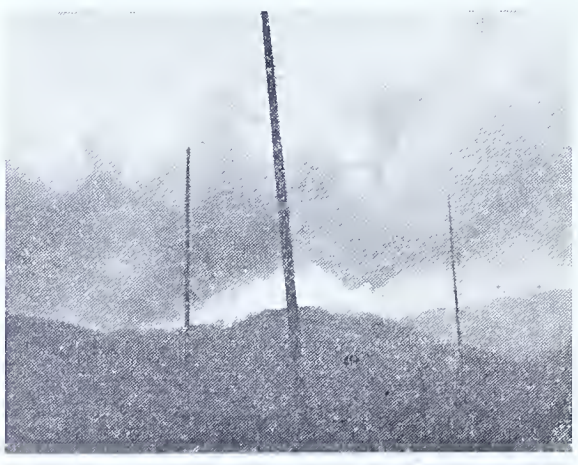
Some kinds of plants do not possess the green chlorophyll and therefore they are unable to make foods but they do perform other useful biological functions. Fungi of all kinds, and the microscopic bacteria, are in this class of plants. Some, it is true, cause diseases of other plants and animals, including man, but many others perform distinctly valuable services. One of these essential biological functions is that of bringing about the decay of dead plants and animals and the return to the soil and to the atmosphere of their inorganic components. If this process were to cease the whole surface of the earth would eventually become hopelessly littered with organic remains and reach a point where living things would find it impossible to exist any longer. It is, therefore, of vast importance in the cycle of life. The mineral matter which is returned to the soil when products of life decay is used over and over again by other living things. That is why humus enriches the soil and keeps it in a state of productivity.

One of the elements which returns to the soil when organic matter decays is nitrogen. Now nitrogen is one of the principal constituents of the air, comprising as it does approximately four-fifths of the total volume of the atmosphere, but plants are not able to use this free, gaseous form of nitrogen. It is available for plant use only in the form of nitrates present in the soil and capable of being dissolved by the water in the soil. Certain bacteria which are found in the soil and in the root nodules of plants of the Pea Family, such as clovers, alfalfa, beans, peas, and locust trees, have the ability to convert this free nitrogen into the usable nitrates, thus making it available for general use by plants. When nitrogen is added to the carbon, hydrogen, and oxygen in the plant "food factory" another important food is the result. This is *protein*. Plants also use small amounts of various soil minerals such as iron, calcium, potassium magnesium, phosphorus, and sulphur and animals obtain most of these essential minerals from the plant foods which they eat.

We have already stated that no animal has the ability to make food. The only exception being certain single-celled flagellates which contain chlorophyll and these forms are on the borderline between the plant and animal kingdoms. Animals, therefore, are dependent upon the plant world for all of the food which they eat. Some animals, it is true, derive all or the greater portion of their food by devouring other animals. Indirectly even these flesh-eaters are dependent upon plants for the animals upon which they feed are usually plant-eaters. Mice, rabbits, squirrels, and deer are for the most part *herbiverous*, or plant-eating forms. These species are in turn killed and utilized as food by such *carniverous*, or *predatory* forms as wolves, foxes, wildcats, weasels, hawks, and owls. In the water the same thing is true as on the land. Small aquatic animals feed upon the minute plants and these in turn are eaten by larger aquatic animals. The waters, like the land, would soon become barren of life if plants ceased to exist.

Photo by John B. Ledam
Grapevines.

New Book



The Tillamook fire of 1933 in Oregon—one of the great forest conflagrations of all time—at the height of the blaze. Stewart Holbrook was present at this fire and describes it in his new book "Burning an Empire: The Story of American Forest Fires" (Macmillan).

Don't You Call Me Polecat

(Continued from page 18)

smellin' thing a polecat. Another book even went so far as to say that the term, polecat, is incorrectly applied to the skunk. I liked that book.

Now you can see how very all wet you've been when you called me a polecat. And you can see how much I resent it since I'm really not a bad animal myself and certainly not a polecat. So please won't you stop callin' me that awful name now that I've set you straight? I know you don't like my smell, but remember that it's me that smells and not both me and my reputation. So from now on, just call me 'skunk' and thank your lucky stars that you don't have polecats in Pennsylvania."



It lives a lot like we do—in deserted buildings, rock crevices and under porches.

Killing Two Birds With One Stone

(Continued from page 3)

suffering plenty of damage from the local bunny population. Except in a few isolated cases where rabbits may have been unofficially released on lands without the knowledge of the Commission or its officers, which could have been possible though hardly likely the animals are released on lands where public shooting is permitted and by and with the consent of the owner or the lessee. In fact most farmers welcome the additional stock knowing that they too will have an opportunity to bag some of it when the season rolled around the next year. In no case will the Commission or any of its bona fide agents deliberately release rabbits or any other game on lands without the consent of the owner or the lessee, and unless public shooting was permitted, nor will it release them on lands whereon no public shooting is allowed because that is contrary to the policy of the Commission.

This year Class B trapping agents will be paid at the rate of 50c for each rabbit trapped and turned over alive to a representative of the Commission if the Commission furnishes the traps, and 60c each if the trapper or organization obtains a permit in advance and builds its own traps. In the latter case traps must be made according to Commission specifications and shall be properly identified and operated only under supervision of a Protector. The rate of 75c each will be paid for trapping pheasants and in all instances the Game Commission furnishes the traps. Approval has been given to appoint as trapping agents farmers who are having trouble with pheasants.

The whole program can be made a community affair with benefits of one kind or another accruing to all concerned. It will not only help give relief to Victory gardners next summer but will remove from areas animals that cause depredations and place them where they will offer some additional sport, and where they will continue to multiply and provide additional shooting for future years. Let everyone get behind it!



My family and I have played a big part in the fur business, and we haven't complained one little bit about contributing our fat to the country's war effort.

HERE AND THERE

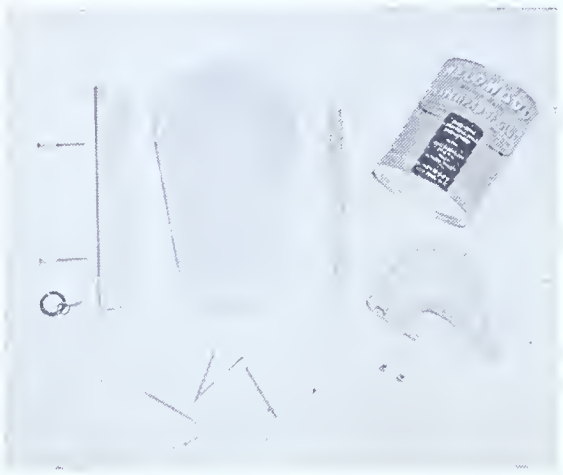
As we were going to press who should be heard from but Pvt. Clifford L. Ruth, Game Protector Land Management, Bedford County. He is down at Camp Sibert, Alabama, where he says the days are hot and the nights cold. "I never knew a fellow had as many places on his anatomy to get sore" says Cliff, after a hard day's grind. He wants to hear from the gang.

The office staff joined recently in wishing Mrs. K. W. (Betty) Myers, of the Division of Public Information 'bon voyage'. Betty left the Commission after five years of loyal and faithful service to live with her husband at Camp Swift, Texas. Mr. Myers is a Staff Sergeant in the Engineers. Best of luck Betty.

The office staff also welcomed Miss Helen Merritts, of Altoona, who recently affiliated with the Division of Propagation and Research. Miss Merritts acquired her B.A. degree in 1940 at the University of Pittsburgh, and her M.S. in 1943 at Penn State. Our readers will no doubt recognize her as the author of a number of articles in previous issues. Welcome indeed Helen and best wishes.

Proper Approach to a Duck Dinner

(Continued from page 12)



Parts

the job by making all lines round to conform with the true shape of a duck.

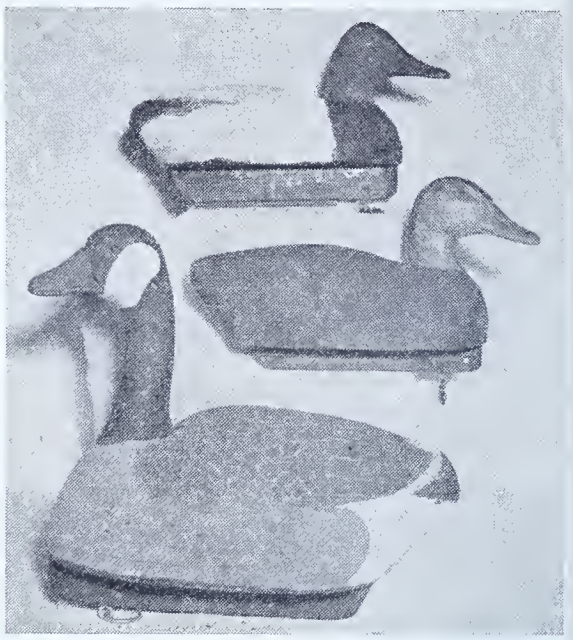
The cork decoy as here laid out embraces most of the better features of a good decoy. Cork is chosen as the body material because of its lightness in weight and the ease with which it can be worked, the keel answers the purpose of a balanced weight, to counter balance the upright head and keep the decoy from turning over in rough water, while helping to buoy up for visibility. Decoys to be used in open water where strong winds are encountered should have a lead strip attached to the bottom of the keel. This will help to eliminate much of the artificial rock and bounce. The tail shape is such that breakage in handling is next to nothing. Too much overhang beyond the bottom board causes the tails to become very fragile, also if the tail is pointed up instead of down they will soon scuff and chip off.

The best type of anchor rope fastener can be secured at the hardware store at very little cost—screw eyes opened and an inch harness ring inserted is the answer. The ring takes all the wear, you will note in the picture of the painted decoys that a hole is drilled in the keel, this was the fastening formerly used but cost in lost decoys was considerable in a stiff northerner even with line the thickness of a lead pencil. Since using the harness ring a few seasons ago I have not lost a decoy.

PAINTING: Painting decoys was, up to a few years ago, a deep and untold secret. It is still a problem to the best of ordinary house painters. The paint must be entirely dead, no gloss is permissible and that is not the problem entirely—the paint must be able to stand the worst kind of weather and abuse, and also protect the wood and cork. I have been able to purchase all my paint from a decoy house in Minnesota for the past three years, but before that I was able to mix all my own paint by buying flat black and white, cutting it with turpentine, and making the colors needed by adding color ground in Japan purchased at the paint store. It is necessary to use decoys to represent 2 species of ducks, one of the diving family and one of the puddle family. I chose the two that are the best known here in the East and also the easiest to paint—the black duck and the canvasback. These two ducks together take only six colors of paint all of these easy to reach by the above method. Where slight gloss or sheen is encountered it can sometimes be eliminated by rubbing the paint with water and pumice.



Assembly



Finished Product

SOURCE OF PATTERN: I beat together my first decoys some 10 years ago without the benefit of sample or knowledge of good construction. About 5 or 6 years ago I became dissatisfied with these so I purchased sample decoys from just about every company who made decoys in America, paying as much as $3.75 a piece for the best. Before me as I write this are 8 books on the subject of ducks and decoys, plus a large scrap book of clipped pictures of ducks and decoys which I personally gathered in the past 10 years from sources too numerous to mention. From my personal experience I feel sure that with patience in making your decoys a reasonably close likeness of the true ducks can be created and you will have the desired luck. I have had the pleasure more than once of studying black ducks, one of our wiliest ducks, setting among my decoys for a period of hours, lazily drowsing and not the least suspicious that their immediate brothers were of cork. The black duck decoy in the photo is a veteran of the past six seasons, doing approximately 200 hours duty per year. He is still in his original paint plumage. Barring the loss of him to me or me to him, he will continue in his present executive position for that long in the future.

Rabbit-track Moses and the Preacher

(Continued from page 17)

"They'll be scared off!" exclaimed Slim Madigan. "Who's this derned fool—"

"It's an old Ford!"

Old Ford! And the fox hounds, barking closer now, coming down through the forest! I hurried over to talk to Rabbit-track. When I saw him, anger flared to life within me. His entire length was stretched on a bed of moss, with his arm hooked about an empty bottle. His eyes were closed, peacefully closed, and his mouth, filled with tobacco-stained buck teeth, was open wide. A small fly buzzed happily about in the warmth of his breath exhalations. I bent over and shook him. It was no use. He snored blissfully on. "Passed out!" I sighed, in disgust.

But with all this, I missed a bit of fun. It seems like the car, which stopped out on the road, was Doc Mayer's car, filled to the brim with buxom Mellisanda, on the warpath after her fox-hunting husband. All I heard was her, "Measles, he says! Aren't no measles patients out here!" I said "Uh-uh" and ran out towards the road.

By this time much had happened. First, the deer-killers had started up their truck and were headed fast for the main road. Secondly, Reverend Withers stepped out to keep Mellisanda from danger. And as I cleared the forest, tripped over a Virginia creeper, and sprawled hands forward in a ditch beside the road, Reverend Withers did a most remarkable thing. As the deer-killers slowed the truck to negotiate the curve before hitting the road, he caught on to the rear of the truck, hitch-a-ride fashion, and lifted his skinny frame on to the body of the truck. And nimbly, too!

While, "Reverend Withers! At your age!" gasped Mellisanda.

I rose quickly to my feet. I could not help but smile, seeing the good preacher perched helplessly on top of a pile of coal. What he had leaped for, I'll tell not. He looked due for a wild ride across the Poconos. But I had forgotten Slim Madigan. Two rifle shots snapped out—quickly, one, two—and a loud bang! and phsst! followed. The truck throbbed toward the side of the road, the right front tire flat-

tened. Slim Madigan ran out to cover the deer-killers with his rifle. Reverend Withers leaped down from the coal pile to assist.

By this time another war was on. The fox hunt had brought Doc Mayers out to the road, straight into the arms of Mellisanda. He had tired quickly of the hunt and was headed for White Haven in the chariot. Mellisanda still cried, "Measles! Aren't no measles out here! Fine physician, fine minister of the gospel, fine game warden, we got! If there's a lunatic asylum of this Poconos, it must be White Haven!"

Slim Madigan placed the offenders under arrest. Under the pile of coal was found a fine doe deer. And as we walked our captives toward the car a long lanky figure slipped out of the brush, stretched long and lazily, spat, yawned, and finally grinned a silly buck-toothed grin. "We got'm, Rev'ren, didn't we? I told you, didn't I, these rats was up to no good? It's a trapper I am, not a hunter, but I pay for my license an—"

Thus spoke Rabbit-track Moses of the Poconos, in his inimitable style. What could we do but listen?

FATS FOR EXPLOSIVES

(Continued from page 20)

The answer is no. Since the Legislature, during the 1943 regular session, authorized their sale in Pennsylvania, deerskins when disposed of by the original owners within 90 days after the deer season are now in the same category as ordinary cow or horse hides and there is no restrictions on who may purchase or resell them.

The Commission interprets the intent of the Legislature to authorize the shipment, by the purchaser, of legally sold skins to commercial processing firms, either within or outside of the Commonwealth, without a permit of **any kind.**

Open-ness of the Primeval Forest

IN PENNSYLVANIA GAME NEWS for December 1936 (Vol. 7, No. 9, pp. 6-7), the undersigned summarized his views relative to the open-ness of the primeval forest. Popularly that woodland is supposed to have covered the entire eastern United States and to have been "impenetrable". However, testimony as to its open-ness is available in the works of early writers. Among them are: Thomas Morton who wrote of New England about 1620-1630. On this subject he said:

"The Salvages are accustomed, to set fire of the Country in all places where they come; and to burne it, twize a yeare X X X this custome of firing the Country is the meanes to make it passable, and by that meanes the trees growe here, and there as in our parks: and makes the Country very beautifull, and commodious." (New English Canaan; or New Canaan, etc. (1632) Reprint 1838.)

Samuel Wilson whose history of Carolina was published in 1682.

"Near the Sea the Trees are not very large: They grow pretty neare together; farther up they are large and grow farther assunder; and are in most parts free from Underwood, so that you may see neare half a Mile, amongst the bodys of Large tall Timber Trees, whose tops meeting make a very pleasing Shade: Yet hinders not Grass, Myrtle and other Sweet Scenting shrubs, here and there, from Growing under them: Among these groves of Timber Trees are have occasioned some that have seen them to compare Carolina to those pleasant parks in England, that have an abundance of tall Timber Trees unlopped; here you may hunt the Hare, Fox and Deer all day long in the here and there Savannas or Grassy planes of several Magnitudes clear of Trees which Shade, and freely spur your Horse through the Woods to follow the chase." (An Account of the Province of Carolina in America, etc. (1682), Hist. Coll., S. C. (B. R. Carroll), **2, 1836).**

Thomas Ashe explorer of the Ohio River valley in 1806.

"The American forests have generally one very interesting quality, that of being entirely free from under, or brush wood. This is owing to the extraordinary height, and spreading tops of the trees, which thus prevent the sun from penetrating to the ground, and nourishing inferior articles of vegetation. In consequence of the above circumstance, one can walk in them with much pleasure, and see an enemy from a considerable distance." (Travels in America performed in 1806, for the purpose of exploring the Rivers Allegheny, Monongahela, Ohio, and Mississippi, 1808.)

These extracts throw a clearer light on the character of the original American forest. If it had not been open or contained many openings, it could not have produced the abundance of wildlife that tradition assigns to it.—W. L. McAtee, Fish and Wildlife Service, Chicago, Illinois.

Feeding fire fighters isn't part of the regulation Red Cross Canteen Corps training, but when fire raged in the mountainous area north of Reno, Nevada, last September, the Washoe County Canteen Corps was ready.

A telephone call at one o'clock in the morning was the first word Mrs. T. L. Withers, Canteen Chairman of the chapter, had of the disaster. Within an hour six canteen workers were on their way to feed the fighting men.

Working with four big gas stoves in a mobile kitchen set up under canvas by the Mono forest service, the women prepared steaks, sandwiches, coffee. The first canteen crew was relieved at six o'clock the following morning. This group worked 12 hours when another took over for the night.

The fire fighters came to the canteen kitchen in groups of 150, eating from long tables on which the supply of food was spread. The men carried packages of sandwiches and other food back to workers who were unable to get away.

New Types of Pens for Bobwhite Quail

(Continued from page 14)

through a larger number of birds than it would if the same number of birds were kept in smaller units. Although such a danger should be recognized; nevertheless, the following facts are worth consideration:

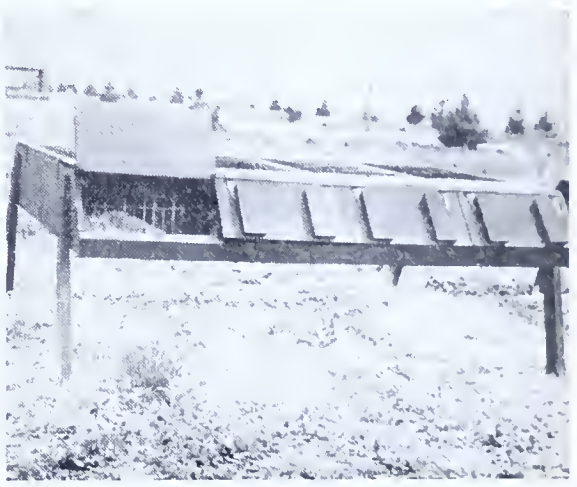
1. Inasmuch as the birds run on wire, they have little chance to get to their droppings. Likewise, an abundance of fresh air on all sides prevents much contamination of the atmosphere. Therefore, only direct contact with sick or dead birds, the drinking of polluted water, or the eating of contaminated feed could cause an epidemic. These possible sources of danger can be eliminated by prompt removal of ill birds or carcasses, and proper sanitary measures.

2. Whereas isolation of a disease outbreak is possible with a number of small units, this value can be quickly overbalanced by slipshod management. For example, lack of care in the handling of the water receptacles of the diseased birds and the rest of the stock can cause disease to be transmitted to every pen on the farm.

It is the authors' opinion that the large quail holding pen is a definite milestone on the road of progress towards the more successful propagation of quail for restocking purposes. Perhaps holding enclosures for quail similar to the enclosures now used as hardening pens for pheasants will be the next step in this important work. In the light of the question whether liberated captivity-reared quail can survive in the wild as successfully as wild birds, research along this line is vital.



The large quail holding pen; capable of holding 400 birds.



The 4-unit quail breeding pen.

Last year's kill of all kinds of game numbered, in round figures, over 5,800,000 pieces, a little over 7,000 tons, which in anybody's language is a whale of a lot of meat on the table and ration coupons saved in the bargain. In round numbers nearly 31,000 bucks and 149 bears were taken. Last year's bear season was much below normal because of the dry, hot weather which prevailed, and because a lot of bears had holed up earlier than usual, having fattened themselves on apples and other food, as well as at the expense of many irate landowners whose corn fields, corn cribs, beehives and livestock were raided. The Commission hopes the kill this year will be larger so as to minimize the depredations that ordinarily follow hibernation in the Spring, when the animals emerge gaunt and ravenous.

Other game taken last season included, in round numbers, 3,500,000 rabbits, 6,000 hares, 1,200,000 squirrels, 32,000 raccoons, 3,900 wild turkeys, 237,000 ruffed grouse, 463,000 ringneck pheasants, 67,000 bobwhite quails, 27,000 woodcocks, 38,000 grackles, 64,000 waterfowl, and 184,000 woodchucks. Prepared properly, cooked under the right recipes, and garnished with the right sauces this enormous amount of wild game provided more than one savory meal for the 649,000 licensed hunters and their families.

Americans may be expected to spend three billion, six hundred and forty-four million dollars a year for recreation about five years after the end of the war, it was declared today by B. E. Strader, Director of Sales for Remington Arms Company, who addressed a joint convention of the American Hardware Manufacturers Association and the National Wholesale Hardware Association at the Hotel Commodore.

This, he pointed out, represents *an increase of 121.8 per cent* over the dollar volume spent for recreation in 1935 and 1936. The figures are based on a national income of $135,000,000,000 which economists and business planners have agreed will maintain the national economy.

Based on these forecasts, Mr. Strader said the sporting arms and ammunition industry, together with wholesalers and dealers who market their products, could look forward to excellent prospects for sales.

Illustrating his talk with charts showing trends in national income and in spending, Mr. Strader showed that a survey of 60,000 families, made in 1935 and 1936 by the National Resources Planning Board, indicated that Americans spent $1,643,000,000, or 3.3 per cent of consumer expenditures, for recreation. Of this amount, $197,000,000, or .4 per cent, were for sports and games, including hunting.—REMINGTON ARMS Co., Chicago.

Don't forget to place your deerskin in the channels of trade. You may sell it within 90 days after the close of the season. See your local hide buyer.

Virgin forests in America which covered probably 800,000,000 acres in 1643 now cover less than 100,000,000 acres.—*Science News Letter.*

"Old Jack!"

By Pvt. Harry Seiders, Camp Shelby, Mississippi

It was in the days of Autumn
I took my gun from off the rack
My thoughts had taken me to the woodland
And by me stood old faithful Jack

Out upon the rugged mountain
The leaves were turning brown
In the early hours of morning
Frost was painted on the ground

Little bullfrogs in the meadow
All had hushed their summer croaks
There were red leaves on the maple
There were brown leaves on the oaks

There were squirrels in the woodland
We could hear the rustling sound
As they clamored for the acorns
That had fallen to the ground

There were paintings on the mountain
All their beauty to behold
All the summer birds had flown
All the pumpkins turned to gold

As I looked out on the mountain
From our cozy little shack
There were signs of anxious waiting
Written on the face of Jack

For we saw the summer ended
No more droning of the bees
Heard the voice of Autumn breeze
Whispering gently through the trees

Then Old Jack he seemed so happy
He expressed with wagging tail
For he sensed the nearing season
When we soon would hit the trail

But Alas I got a summons
Uncle Sam was calling me
Come to join a band of soldiers
Help to keep our Country free

So I bid Old Jack the parting
And I shed my hunting togs

No more long and happy chases
No more sound of baying dogs

No more echoes from the mountains
Where a chase is being won
Nor the journey home at evening
When the chase of day is done

No more treks in early morning
Through a mountain clad in snow
Or the babbling notes of music
Where the mountain waters flow

No more home fires to be burning
In our cozy "Mountain Rest"
Nor the lamp light from the window
When the sun is in the west

Yet Old Jack I've not forgotten you
In my heart you linger still
In my dreams I see you charging
Up the steep and rugged hill

In my dreams are painted memories
That will never fade or fail
Through the valleys over hills
I hear you tongueing on the trail

You must keep the trails well beaten
Through the hills we used to roam
And keep the hunting spirit flaming
Till the day when I come home

For Uncle Sam declared a season
And he bid that we should go
To hunt in foreign territory
With no bag limit on the foe

When this foreign season is over
When we sound the final taps
And we boast that we have bagged
All the Germans and the Japs

Then Old Jack I'll start my journey
To the land of rocks and rills
Then we'll roam once more together
In those Pennsylvania hills.

PVT. HARRY SEIDERS
Camp Shelby, Miss.

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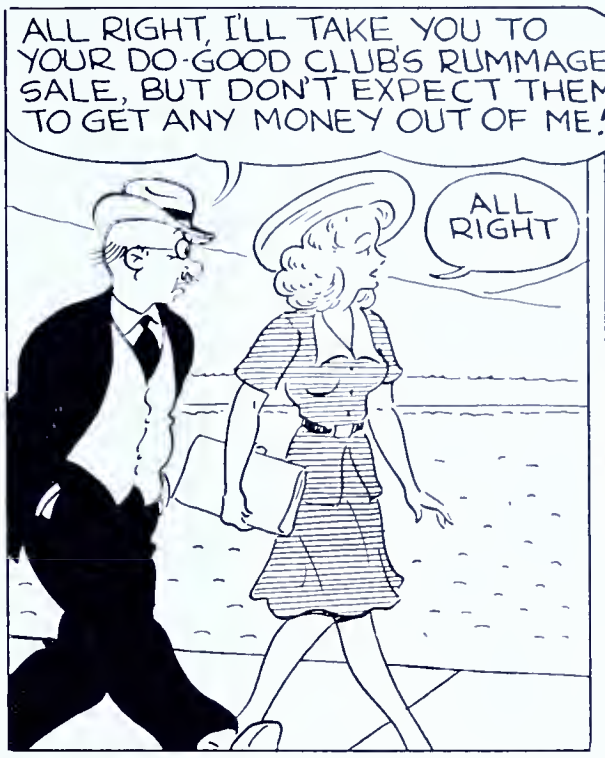
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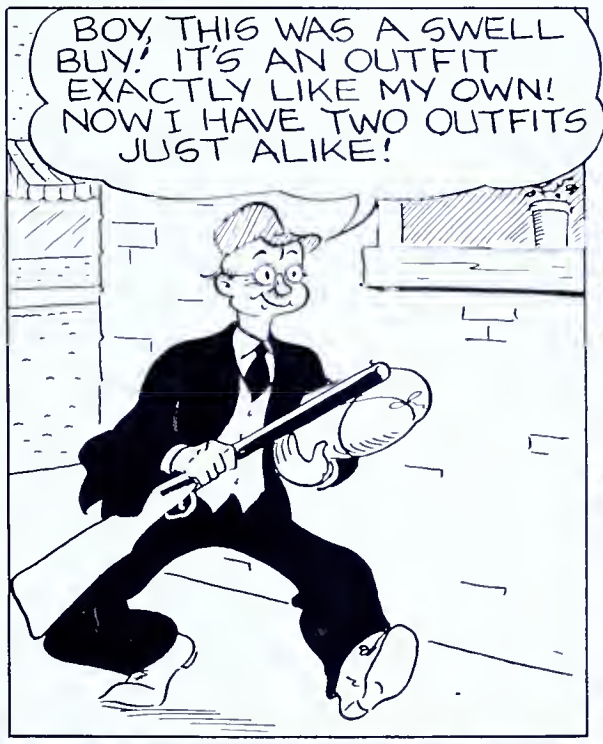
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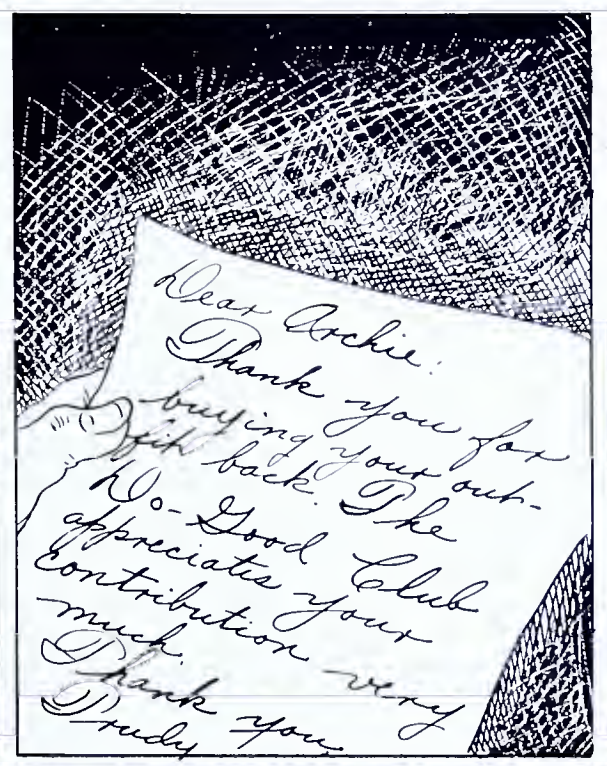














Merry Christmas

MERRY CHRISTMAS TO YOU SERVICE MEN

EVERY GOOD WISH TO EACH WE SEND,

REMEMBERING WHEN FAR FROM HOME AND FRIEND

REFLECTIONS AND MAIL ARE THE THINGS THAT LEND

YULETIDE'S GREETINGS FOR A HAPPY BLEND.

CHEERFULLY WE SHOUT THEM ALL THE WAY,

HOPING THEY BRIGHTEN YOUR CHRISTMAS DAY,

RENDERING IT RICH WITH PRAYER AND GIFT,

IN HAPPY THOUGHT THAT YOUR SPIRITS WILL LIFT.

SURELY WE WILL BE MUCH HAPPIER TOO,

THINKING LESS OF OURSELVES, MORE OF YOU;

MAKING WONDERFUL PLANS, SO YOU WILL LEARN,

ARRANGING THIS AND THAT FOR YOUR SPEEDY RETURN

SAVING OUR *BEST* FOR YOU 'TILL *THEN!*

The Editor.

PENNSYLVANIA GAME NEWS

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A New Year For Victory

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WILL RAPP

PENNSYLVANIA GAME NEWS

PUBLISHED MONTHLY BY THE PENNSYLVANIA GAME COMMISSION, HARRISBURG, PENNSYLVANIA

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VOL. XIV, NO. 10

EDITORIAL

JANUARY, 1944

IN THIS ISSUE

Investing the Sportsman's Dollar
By N. E. Slaybaugh

★

Wildlife Conservation—Its Past, Present and Future
By William Grimm

★

A Nature Study
By S. V. Sedlak

★

Food for Thought—And Wildlife
By Frank C. Edminster and John R. Langenbach

★

The Grand National Grouse Championship
By Frank E. Foss

★

Predators on a Game Refuge
By Earl L. Poole

★

"Quills"
By Helen V. Merritts

★

An Obliging Timberdoodle
By W. Bryant Tyrrell

★

Cover by Will Rapp



So you saved plenty for us?

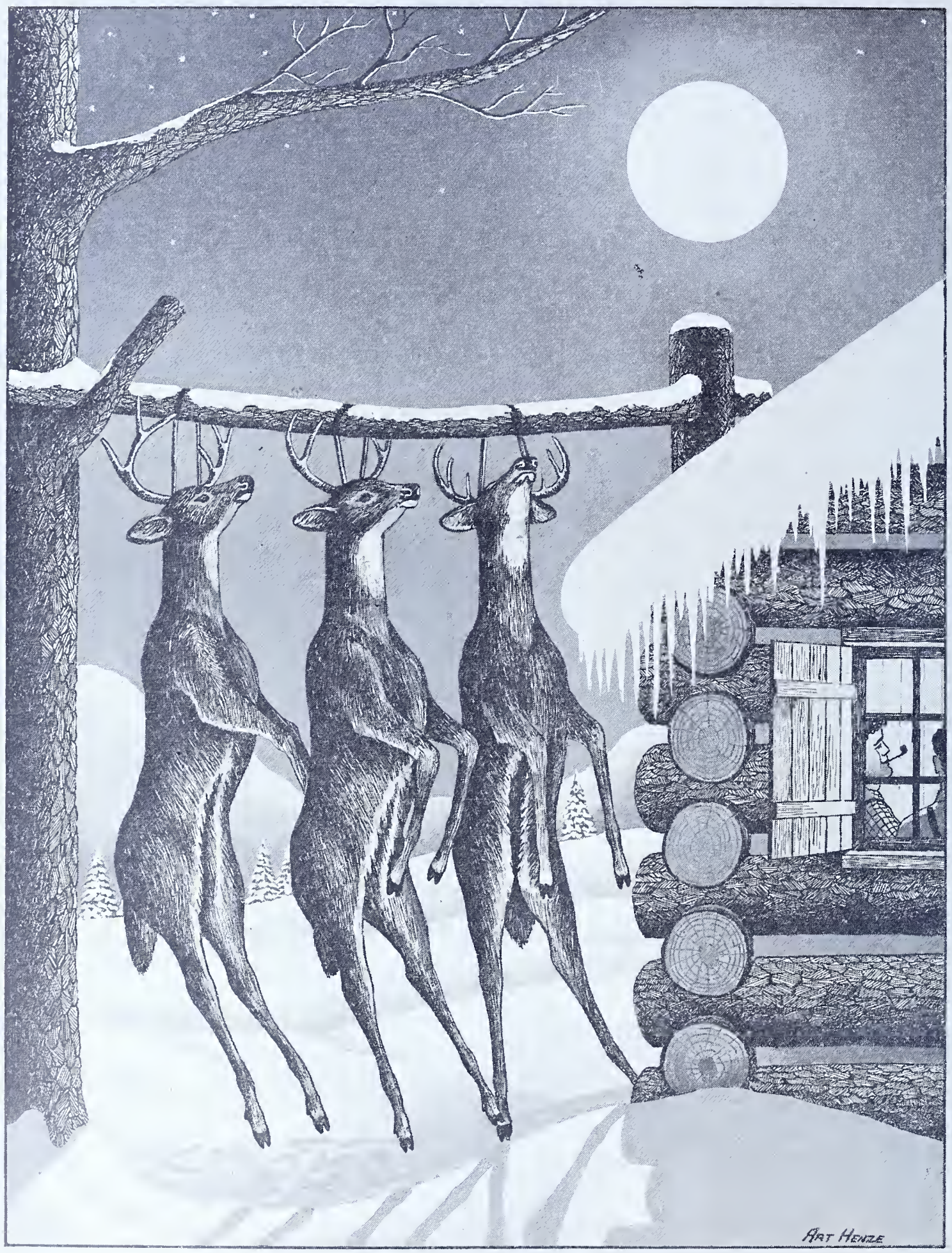
TAKING STOCK

Now is the time to take stock. What did we accomplish last year? What will our goal be for this year. The next twelve months are going to demand more from us than ever before. More of our own official family, more of our sportsmen will no doubt be called either into the armed forces or into important industries. Under these circumstances we are each going to have added responsibilities thrust upon us. Let's accept them with a smile, and do our best. After all, we have an obligation to every Pennsylvania service man and woman who hunts, and we can not afford to break faith with them when we know they are counting on us to keep the ball rolling until they come home. They are asking very little in return for what they are giving.

The war seems a far cry from the peace and contentment we are priviliged to enjoy—the freedom which is ours because so many are giving so much. But the war is not far away, not any farther than the reflections of those men and women who are thinking even as they work and fight of some favorite little spot in field or woodland where, it seems but yesterday, they started out on a frosty morning, air biting their lungs, dogs straining on leash.

No the war is not any farther away than that. And that is why we here at home must keep pitching double headers. We want every one of the boys when they return to find hunting conditions just as good, better if possible, than when they left. And if we think we are not going to be asked to measure up to that very thing, we are just kidding ourselves.

So with this responsibility in mind let us all make our goal for this year a Victory goal by gripping the reins tightly and pulling together a little harder for the fellows over there.



End of the Season . . . End of the Year.

Don't Forget to Report Your Game Kill Before the Deadline on January 15.

Happy New Year

ON behalf of the Pennsylvania Game Commission and its Staff, I extend all readers of the GAME NEWS, including the Commission's employees, greetings for the New Year—hearty greetings, and our sincere appreciation for your loyal support during the past year—a period fraught with the same complex problems that every organization and individual has had to face during the prosecution of a war which we must all help to win.

In the last twelve months, and the twelve months preceding, you have given unstintingly of your time and effort to help offset the temporary loss of those who have answered the call to the colors in order that we could keep our conservation house in order pending their return to private life. You have all applied yourselves diligently and painstakingly to the tasks assigned you, and have helped to maintain a morale which has been high enough to elicit words of praise from others.

Perhaps you have felt you were just doing your job; believe me when I tell you that you were doing more than your job. You have made it possible for the Commission, not as individuals but as an institution, to maintain the same high standards of performance during war that it maintained during peace. And we have progressed because of that splendid performance, and will continue to progress as the years go by. It is your fine spirit and devotion to a cause that has made all these things possible. I am sure that neither will ever die.

We are engaged in a most unusual business—one filled with ups and downs the same as any other business. There is one exception. We have a great many more paying customers than most business concerns—over 600,000 of them, nearly all of whom are regular customers. And we have over nine millions of other citizens who, even though they pay nothing toward the work, are nonetheless interested customers. To please all of them is no easy task. To please most of them is an accomplishment for which every single man from the office and the field deserves credit. We can be truly thankful that the great majority of our customers, the citizens of this great Commonwealth, are far-sighted, understanding persons. That fact has made our work a lot easier, not physically nor mentally perhaps, but certainly spiritually. I mean the spirit which prompts one to keep plugging because he knows that he has the support of those whose interests he is endeavoring to improve.

As I said before, our business is complex because of its wide diversity. The problems of the Commission are many, both in the field and at headquarters, and the details accompanying them often seem more than we can cope with. Sometimes I have a feeling that in our efforts to produce a better product for our customers we "miss the boat" in some cases; but when I sit back and look at the record throughout the past 47 years I am compelled to admit we have sown far more seeds of success than we have of adversity. The record is one of which every person who has aided the Commission in any way can be most proud, indeed.

In the year ahead all of us will be compelled to work just a little harder, if that is possible, in order to improve conditions for our great hunting fraternity—those at home, those who we pray will soon be coming home. In this exercising of your duties, should the demands of war make them more arduous, try to do three things: (1) Respect yourselves. (2) Respect one another. (3) Treat everybody fairly. If you are asked to stop a certain task to help someone else, do it cheerfully, with a smile.

For the special attention of the Commission's employees, and it applies equally to all readers of the GAME NEWS, I'd like to quote from an open letter an executive once wrote to his co-workers. His business was a lot different than ours, but in essence his feeling is so essentially like mine that I'd like to pass it on to you. He said: "Crack a joke and stop and visit when you want to—particularly if the heat is on. A former associate once told me I shouldn't stop and tell you fellows a funny story when you were busy. I disagreed then and I disagree now. That is just the time to stop for a few minutes and have a little smile. Relax! I have sent flowers to too many of my businessmen friends' funerals in the last ten years. They are dead because they took themselves too seriously. Try and get a little fun out of your job every day and a little laugh every hour.

"Don't cultivate any petty, personal animosities. If you think the other fellow is a screwball, he thinks the same of you, and you may both be right."

Just one or two more things before I finish. If you, and I mean every one of you, whether part of our official family or not, have any suggestions for improving the work, let us have them. Remember there aren't any "No admittance" signs on the doors of the Game Commission, or of your supervisors, and that they welcome rather than discourage your advice. Anything you can contribute to the betterment of the service to Pennsylvania's ten million citizens will have its place in your own sphere of activity as well as in the other fellow's.

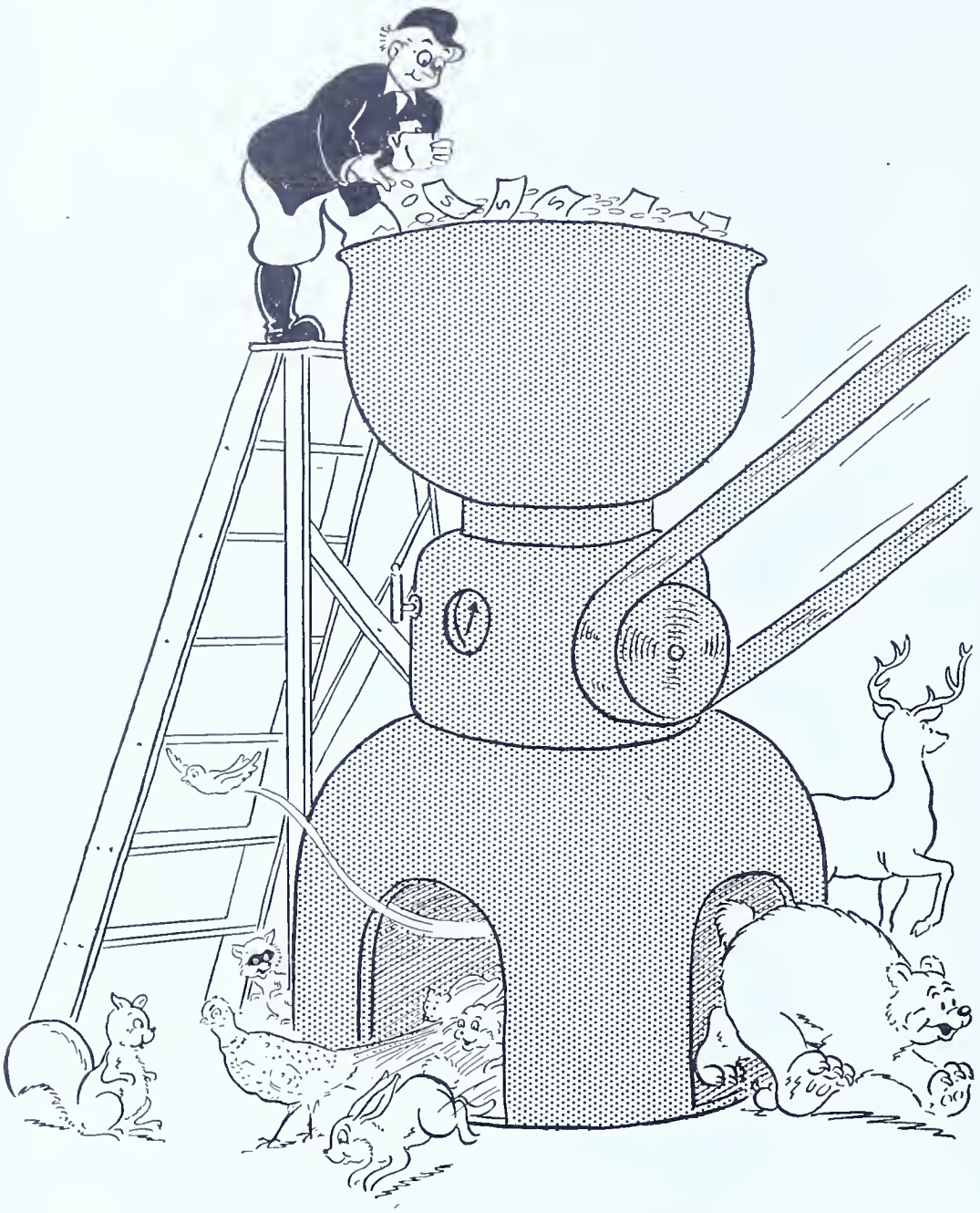
And lastly, let's keep our house always in order—neat and tidy as it were. Our business is a far cry indeed from an industrial organization, nevertheless comparably speaking it is a plant—a place we put in a great many hours of our time. You folks who work in that plant are the best trained and best skilled individuals in your various professions. You have, again comparably speaking, the best equipment with which to work. If you haven't let us know about it. We understand only too well that no one can manufacture a good product with inferior materials.

In the words of the executive I quoted previously: "I'd like to feel that every employee on our payroll today is just one member of a big family. We all put our pants on one leg at a time. All flesh is grass. Fame is fleeting. There is no one on earth who has more contempt for a flock of titles or a brass hat than I, because after all, a man is exactly what his daily conduct toward his fellowman makes him. I try to be as courteous to the errand boy and the car washer in the garage as I do to a chief executive and I try to be fair with everyone."

Again Happy New Year, and may you and yours enjoy it in every way possible as you so richly deserve.

Ross L. Leffler

PRESIDENT, PENNSYLVANIA GAME COMMISSION



Investing the Sportsman's Dollar

By N. E. Slaybaugh

EVERY year a new group of "youngsters," under the guidance of seasoned hunters, most of whom are the Dads of these newcomers, join the hunting fraternity. This is not unusual, but something that is expected. It is for this reason, primarily, that the Commission must look ahead many years in planning its work, so that those who follow us may enjoy this priceless heritage—the great out-of-doors—even to a greater extent than we do today. Our boys are the potential hunters and guardians of the fields, the forests and the streams of tomorrow. With this thought in mind, the importance of carrying the message of conservation and wildlife management to the Boy Scouts, the 4-H Clubs, Future Farmers of America and other allied organizations is fully recognized. The Commission avails itself of every opportunity to serve these groups.

The matter of rendering an accounting to the sportsmen must for the most part follow a uniform pattern, otherwise the "newcomers" would not receive the basic facts, nor would it be possible for the "old timers" to make yearly comparisons, check trends, etc. With this introduction we shall proceed to give you a complete accounting of the manner in which the Commission has invested the sportsmen's dollars for the year which ended May 31, 1943.

Income and Expenditures

During the year which ended May 31, 1943, the income from all sources credited to the Game Fund amounted to $1,564,885.98, or $86,102.63 below the year which ended May 31, 1942. When comparing this year (1942-43) with the 1940-41 fiscal year, when an all-time record was established, we find there was a decrease of $93,852.79. (For details please refer to Table No. 4.) It was most fortunate indeed that three records should be established during successive years, thus making it possible to create a substantial "Wartime Reserve," the purpose of which is fully explained later in this article.

As will be noted, the bulk of the revenue was derived from the sale of hunting licenses, the amount being $1,342,996.83. During 1942, on the basis of preliminary reports (subject to slight final settlement change), there were 640,369 Resident and 8,391 Non-Resident Licenses issued, a total of 648,760.

The expenditures for the year which ended May 31, 1943 totaled $1,244,429.07 (see Table No. 4 for details). It has long been the policy of the Commission to keep its expenditures well within the average annual income. It must be obvious to the reader that during the present conflict many projects must be curtailed or even suspended due to priorities, shortage of labor, etc. This of necessity brings about a decrease in the amount expended for the regular operating functions of the Commission, but at once creates a future obligation or commitment. These commitments have been provided for by the creation of a "Wartime Reserve," the details of which are explained elsewhere in this article.

It will be noted that land management expenditures have increased, and will continue to increase, while the amount spent to buy more land must of necessity decrease. This part of the Commission's program is carried on by earmarking seventy-five cents from each $2.00 fee paid for a Resident Hunter's License. It is obvious that the State Game Lands must be properly managed in order to assure a maximum game crop. The Commission is now managing over 1,000,000 acres for the sportsmen. The Commission does not pay taxes on State Game Lands, but in lieu thereof it pays fixed charges; such charges amounted to $35,041.99 for the fiscal year under review.

Composite Statement

Table No. 1, which accompanies this article, has been brought up-to-date to include the year which ended May 31, 1943. As is to be expected, in any long-term composite statement, the percentage of the total expended for each of the major functions in relation to the total changes slowly. During the 23½ year period the Commission expended a total of $24,686,990.40, of which $14,129,878.29, or slightly more than 57% of its total outlay, went into the production and stocking of game, public hunting grounds and refuges, and bounties; $7,593,097.09, or approximately 31%, for the protection of game, mostly law enforcement; and $2,964,051.02, or 12% for all other purposes, including Executive Office Administration, Accounting, Public Information, Research, Wild Game Transfer Program, Hunters' Licenses and Tags, General Printing, Game Kill Tabulation, etc.

Condition of Game Fund

The sportsmen are the paying stockholders in this great enterprise—the wildlife conservation program. Naturally they want to know about the condition of their treasury. We shall, therefore, endeavor to state the

(Continued on page 22)

By William Grimm

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(Continued from last month)

VII. The Plant-Animal Community

Plants and animals live together in communities much as men do. We often describe the group of plants which live together as an *association* and, of course, each plant association has living in it a number of different kinds of animals ranging from relatively simple, single-celled forms up to birds and mammals. The branch of biological science which deals with these communities of plants and animals and is concerned with all of their interrelationships is known as *ecology*. There is a great deal which we can yet learn about the ecological relationships of even the most common and familiar birds and mammals. Practical conservation of a great many species awaits a more complete knowledge along these lines.

A forest, a meadow, a marsh, or an open pond are all communities of living things. Life in any of them is rather complex. There are plants of all kinds, ranging from microscopic, single-celled ones to the larger forms of flowering plants. Although the single-celled forms usually cannot be seen with the naked eye they are more abundant than the more conspicuous plants and they play an important role in the life of the community. The same may also be said of the simple, single-celled, or microscopic animals. Let us take, for example, a tract of forest land. It is much more than a mere aggregation of trees of various species, sizes, and ages. In addition to the trees there are many kinds of shrubs, woody vines, wild flowers, ferns, mosses, lichens, algae, and fungi. There are myriads of microscopic bacteria everywhere. Some of these bacteria,



"The missus went and made pets outta all the animals in these parts and now I ain't got nothing to trap."

Wildlife Conservation—Its Past, Present and Future

fungi, and even flowering plants obtain their living by directly attacking other forms of living things and we say they are *parasitic*. There are many others which live entirely, or very largely on the dead remains of other living things and we term them as *saprophytic*. Many bacteria and fungi cause diseases of other plants and of animals while numerous others have an important role to play by decomposing their dead remains thus bringing about a return to the soil of substances which can be used again by other living things. The animal life present in the forest ranges all the way from single-celled protozoans and other microscopic forms up to insects, amphibians, reptiles, birds, and mammals. As we have previously pointed out all of these animals are either directly or indirectly dependent upon the plants for their food. There is a great deal of interdependence among the living things in the forest community, or any other plant-animal community, and the various things living in a community tend to keep each other in check. You have often heard this referred to as the *balance of nature*.

Plant-animal communities are very largely influenced and even determined by such factors as temperature, amount of rainfall, and the physical nature of the soil. These communities are relatively unstable and are subject to constant changes. Thus, if there is sufficient moisture and a favorable average temperature to promote tree growth, a forest community may extend its boundaries by invading an adjacent grassland community. On the other hand a decrease in the amount of rainfall, resulting in insufficient moisture for favorable growth of trees, may permit the grassland community to extend its boundaries by an invasion of forested areas. Ponds are constantly being invaded by communities of plants extending their ranges out from the shore and in time these water areas tend to be filled in by the growth of vegetation forming bogs and marshes. Marshes are invaded by forests and in the course of time they become timbered swamps. Changes in the plant life are also accompanied by changes in the animal life. During the period immediately following the retreat of the great glaciers the flora and fauna here in Pennsylvania were no doubt similar to those at present found on the Arctic tundras. In the course of time these northern forms were crowded out by other species of plants and animals moving up from the South. There is evidence that such a movement is still in progress. With the removal of the original growth of white pine and hemlock the land was largely occupied by a forest of hardwoods and the more southern oak-hickory forest association seems to be constantly extending its range northward, replacing the more northern forest types. Under natural conditions these changes progress slowly but man has often brought about very rapid and drastic changes through such practices as clearing the land and drainage of water areas.

When a forest is cut over and not subjected to repeated burnings the land soon grows up again with trees. In some cases the trees which appear will not be the same as those which originally occupied the land. The return of the *climax* or permanent type of vegetation is often gradual and marked by a series of *stages* in development. Where the original forest growth is

(Continued on page 27)



Photo by S. V. Sedlak

After a new snowfall the woods are beautiful.

A NATURE STUDY

By S. V. Sedlak

WITH the passing of the hunting and fishing seasons the most dormant time of the year stares us in the face. Everywhere the ground is frozen beneath a blanket of snow and ice, and the whole creation of a provident nature appears so listless in sleep. Already the migratory birds have gone and settled in warmer climates, while most of the wildlife that remains is entrenched deep in the bosom of the good earth. Of course, the majority of us are inclined to forget about it all, and seek contentment by settling down once more to the regular routine of life.

There's no place like home now, that's true; and cloaked with the cold weather all around, with every industry booming at full capacity, we would much rather relax in the warmth and comfort of the cheerful fireside. Heart and soul may be full of love for everything that nature's woods and waters have to offer, but in the dead of winter, with the game supply down to a minimum there is, seemingly, little encouragement in jaunting about in the open. Even if we would want to get out we arrive at the conclusion that the cold, the ice, and the deep snows are defiant characteristics of the season. Such being the case, only a few of the hardiest fellows are willing to venture forth to satisfy their craving for a more intimate communion with nature and her feathered and furred friends.

At first thought we may get the idea into our head that the forested country is all cut and dry now, bleak and forlorn, and shorn of its natural appeal and beauty. On the contrary, there are many scenes that lend enchantment to the rustic rural districts. The carpet of snows helps to captivate us because the remaining active creatures of the woods leave impressions on it that depict the story of their cold weather life. Some of us are inclined to think that the wintry season is unmercifully hard on the game, the fish, and the fur-bearing animals; but the thought that we live in only a moderately cold climate probably never enters our mind. It would do us some physical as well as spiritual good if we would get out of hibernation once in a while to observe at first-hand the ways of wildlife on the winter's snow. Indeed, it is to be admitted that we may have some tough periods as, for example, when blizzards rage, when ice and sleet storms brew, or when gusty, piercing winds sting and chill the backbone at every turn in zero temperatures. But nature balances her weather just as she equalizes all rhythm in wildlife.

Favorable weather, such as can be termed ideal for an excursion in the woods, is that which follows in the wake of a calm snowfall. If the snow stops falling at dusk it would be so much the better to study the movements of animals on the new fluffy carpet of immaculate whiteness. Getting out early at dawn will make it possible to single out the fresh track of a game animal or a fur-bearer and follow it hither and thither to see just how paths cross and criss-cross in the wild. It enables one to get a more versatile picture of the vivid facts written on the surface of the snow. It shows how nature has provided for the self-preservation of all species of wildlife, and how the weaker species are fortified to hold their own against their bold and powerful adversaries. Moreover, it brings to light a lot of factual information that reveals the soundness, the sturdiness of nature's ways.

The real outdoorsman is the fellow who musters physical energy under adverse conditions. Winter weather is no hindrance to him if he has some time to spare and possesses a desire to get out into the forests and fields. He finds comfort and contentment and education in the solitude amidst the tranquil woodland scenery and that is what makes him a better, a keener, a more under-

standing sportsman. He takes his lessons in seasonal stride and enriches himself vastly in wildlife lore. If he lives in an urban area the opportunity to observe the wild game in winter habitat is just as full as that of the man who lives away back at the end of the country road; of course, localities differ in many respects, but the realistic manifestation of animal habits is unmistakably the same.

The signs the wild creatures leave are more than just tracks in the snow. To be able to distinguish one animal track from another is just one interesting phase of a number of tangible facts. The food question is always interesting because without food in the cold snowy season the wild creatures could not exist long. What we will have to fish for in the warmer days to come, or what will be available to hunt or trap for when another season rolls around again depends materially on what survives through the cold weather months. As far as nourishment is concerned, nature always provides for all the creatures of the wild; however, there are times when atmospheric changes interfere and food is difficult to obtain. Periodic sleet, ice and heavy snowstorms cover up a great deal of the ordinary sources of supply and some of the wildlife is, of necessity, forced to gorge itself while the food is plentiful. The best example in this case is that of the bear. In hibernation somewhere in a secluded rock lair, in a hollow stump, or beneath a fallen trunk, it depends upon its heavy layer of abdominal fats to pull it through the winter months. The raccoon, little cousin of the black bear, with habits likened to those of its larger kin, is also curled up snugly in a protective cavity of some old den tree; and the same can be said of skunks, opposums, woodchucks and other lesser creatures of the wild.

Our winged creatures, as the quails, the partridges, and the pheasants which feed extensively on weed seeds find it a little more difficult to obtain food, but acuteness of this nature is short-lived. In winter we can more readily understand how important a part the farmlands play in the conservation of wildlife. Some cornstalks in shock here, and some hay stacks over there—each is a haven of retreat with available emergency food; but when the pangs of hunger gnaw the hardest, the feathered game will seek succor even at the farmer's doorstep, under his corncribs, about his granaries, in his barns and other outbuildings. No one understands this fact any better than the farmer—the man who lives on and tills the soil day after day throughout the year within the environment of wildlife. He grows up with the creatures of the wild and knows both their more cheerful and despondent sides of life.



Photo by H. T. Wieand

Take your dog for a hike with you in the deep snow. He'll enjoy it as much as you do.

The squirrels and the rabbits, both active through the winter months, hold something of common interest to every sportsman who delights in learning more about his favorite game. Tracks in the snow give many enlightening views that depict nature in the raw. The agile bushy-tail is so much easier to spot and observe at this time of the year. With his cache of nuts in store, he has it all over the less fortunate bunny which must live off the barks of briars and saplings while constantly on the alert to the perils of attack by any one of his numerous enemies. A weasel, a fox or a house cat may be crouched nearby, ready to waylay the rabbit at any instant; a sneaky hawk may be perched on the limb of a neighboring tree, waiting for the opportune moment to thrust its sharp clutches into the same rabbit. If the rabbit is wideawake it darts away frantically at the very first signal of danger. It may seek refuge in a heap of stones, in a brush pile or in a sheltering cavity of the earth; but if it would be a second too late, or if it would foolishly disregard the extent of an impending peril—then only a spatter of crimson blood stains would mark the tragedy in the snow and spell the finis of another drama of the wild.

Again, but somewhat further away from the settled country, the upland districts offer a grand opportunity to observe the ways of the ruffed grouse and, in more remote places, the habits of the turkey. These are two of the hardiest game birds. More likely than not we would find grouse tracks in the grapevine thickets and see where the birds had partaken of the dried, nourishing fruit that clings steadfastly and defiantly the whole winter through. The grouse is a canny old bird and the first sign of imminent danger sends it off swiftly to higher and more secure altitudes, perhaps into a thicket of evergreen hemlocks. The hemlock growth which serves well as a good sheltering place is, moreover, another source of winter food supply. But somewhere in the dense, green thicket of trees a blood-thirsty hawk may be laying in wait, or perchance a foxy great-horned owl may be lurking in a darkened, inconspicuous niche. The grouse, ever alert to the tricky ways of these arch enemies of the air, must be ready to take away again in fast, dazzling, flight if life is worthwhile.

Back in the mountain fastness the sleek, white-tailed deer are banded in deep valleys. The evergreen thickets of laurel, rhododendron and hemlock shield them from the rigors of cold and, in cases of emergency, these same growths supply them with the nutriment so necessary to sustain life. The deer family lives quite contentedly, as most

(Continued on page 26)



Photo by S. V. Sedlak

Deep in the deer woods this camp, like hundreds of others, sees no man the whole winter through.



Early shrub lespedezas on the Mt. Gretna game lands in Lebanon County. This stand is ten years old and produced seed the second year.

Food for Thought... and Wildlife

A Progress Report on the Usefulness of Certain Seeds as Food for Bobwhite Quail and Ring-necked Pheasants

By Frank C. Edminster and John R. Langenbach

Photos courtesy U. S. Soil Conservation Service

MANY farms in Pennsylvania need a strip of low-growing perennial vegetation along the edge of crop fields where they join woodlands. These field borders are often a source of severe erosion and are commonly unproductive of the crop being grown in the field. This unproductiveness arises from the competition of the trees and the field crop for moisture and plant foods in the zone where the tree roots encroach under the field. The turning of farm machinery in this border zone often accelerates the rate of erosion and increases the need for a border which will not only control the erosion but provide a good turning ground.

This field edge zone is known as a headland when devoted to perennial vegetation for the purpose of providing a safe turning ground for machinery. It has also come to be known as a "wildlife border" when the vegetation used to control erosion and provide other values is also designed to create a desirable wildlife cover. The fact that such a cover is created between two other types, field and woodland, makes it particularly useful from the wildlife standpoint since there are then three different cover types in close proximity. Thus, the well-known "edge effect" so important in wildlife management is brought into full use.

The first requisites of the materials used in this type border are that they control erosion and provide an easily maintained type of field border vegetation. The second demand is often the creation of a turning ground for farm machinery operating in the crop field. Within the sphere of vegetation that will accomplish these purposes, it is only logical that those that provide the greatest wildlife values should be selected.

For the past decade the Soil Conservation Service has engaged in the evaluation of numerous grasses, legumes and shrubs for field border use. This evaluation has been primarily on the basis of the suitability of the plants for erosion control and their adaptability in establishing themselves under the adverse conditions that exist in the field border. The wildlife shelter values have also been given consideration. It has been apparent from previous studies and from observations that the foods produced by these different plants vary tremendously in their benefit to wildlife. With a view of determining the wildlife food values of a number of these plants, the tests reported upon in this article were undertaken.

The Pennsylvania Game Commission, as well as the Soil Conservation Service, is interested in farm plantings of this type that will improve conditions for wildlife. It was decided that the best way of determining the usefulness of the different erosion control plants as wildlife foods would be to test them on bobwhite quail and ring-neck pheasants—the two most common farm game birds that utilize large quantities of seeds in their diet. Accordingly, the experiments were set up at the State Loyalsock Experiment Station and carried out during the Winters of 1941 and 1942. Two aspects of the usefulness of these seeds were evaluated: First, palatability was determined by the relative degree of selection of the different seeds compared to each other and to the regular food; Second, nutritional value was rated on each bird species' ability to maintain its health and body weight for a definite period of time on any one seed

(Continued on page 28)



Mature stands of the two species of short lespedezas are about seven feet high in good soil. This one is L. bicolor.

* The authors are Chief, Regional Biology Division, Soil Conservation Service, Upper Darby, Pa., and Research Assistant in charge of Loyalsock Experiment Station, Pennsylvania Game Commission, Montoursville, Pa., respectively. The actual tests on which this article is based were conducted at the Loyalsock Exp. Sta. by Mr. John R. Langenbach and Mr. Roger Latham.

The Grand National Grouse Championship

By Frank E. Foss

Caviar Wins Title in Inaugural Grouse Classic

Reprinted courtesy American Field, Chicago, Illinois



Photo American Field
Caviar

CAVIAR, compact white and liver pointer stylist, shattered all precedent as he marched to a clean-cut victory in the inaugural Grand National Grouse Championship. Co-owned by C. R. Barton and John S. Applegate, fellow hunting companions from suburban Pittsburgh, Pa., this six-year-old son of Wautauga Joe out of Gigi went through a gruelling two hours and 54 minutes of sustained running to best the field of 22 setters and four pointers, representing the nation's best grouse dogs. His outstanding victory brings to a close the tight reign that the longhairs have had in Pennsylvania grouse championship stakes for nearly three decades. Caviar came through in the eleventh hour to turn this event from a stalemate into a brilliant victory after a lengthy session that commenced on Wednesday, October 27, and ended Sunday at 4:50 P.M., just as the sun was dipping below the tops of the beech and oak sprouts.

Caviar, the first dog drawn, ran his hour elimination heat on Wednesday when he turned in a consistent, well-applied race that earned him his chance to make his successful bid after five other second series contestants had fallen by the wayside. His championship race far-overshadowed his initial appearance as he displayed loftier characteristics, unlimited bottom and endless intestinal fortitude to keep going when the chips were down. His single contact with the lordly drummer of the woodlands rated high, climaxing a ding-dong, knock 'em down and drag 'em out affair between Communique, closest challenger, and himself. Had Communique been so fortunate to hit bird scent before Caviar, or even back him instead of crossing in to share the find, there would have been a different result written into the indelible record. Communique hung on tenaciously but muffed his golden opportunity after running a total of seven hours and five minutes in his four different appearances under careful judicial appraisal. No runner-up was declared.



Photo by W. L. R. Drake
Judges and Officials

Inasmuch as three sectional grouse championship stakes were in vogue up to August of this year; namely, National Grouse Dog Championship, sponsored by the Pennsylvania Field Trial Club; United States Grouse Dog Championship, sponsored by the Michigan Grouse Field Trial Association and the Saginaw Field and Stream Club, and lastly the New England Bird Dog Championship, supervised by the Association of New England Field Trial Clubs, it was felt that a titular event of utmost importance, comparable to the outstanding championships now being run on quail and pheasants should be sponsored by an amalgamation of the interests of the ardent grouse dog followers from the Great Lakes region, Pennsylvania and the Northeastern states. At the outset, it was clearly stressed that a true cross-section of supporters from these three regions was absolutely necessary to achieve the preconceived goal. Unlimited correspondence fanned out to various spots of the country with Sam R. Light of Venango Grouse Trial fame being the principal promoter of the idea. Thirty-three of the nation's leading grouse dog men made the trek to Cleveland on August 21 for the organization meeting that was capably directed by W. Lee White. John M. Hadaway of Flint, Mich. was placed at the helm as president. Charles Elder of Jersey Shore, Pa., and James L. Bryne of Damariscotta, Me., were elected vice-presidents, and Erik A. Thomee of Greenwich, Conn., secretary-treasurer. Judge Harry R. Hyde was named to the important post of chairman of the board of directors, the panel serving him comprising E. A. Thomee, Frank Ash, W. Lee White and James Bryne representing the Northeastern states; Charles Elder, Sam Light, George E. Sinclair, and John S. Applegate, the Central Atlantic, and John Hadaway, Edward B. Flack, Dr. Harold D. Ersig and Dr. C. F. DeVries, the Great Lakes region. A committee on grounds, judges and dates headed by John S. Applegate, swung into immediate action and decided that this first titular event would be held in the Black Forest near Jersey Shore, Pa.

It is important to emphasize the herculean task the capable representatives of Pennsylvania's Fish, Game and Forest Commissions completed in charting, surveying, timing, cutting-out of brush and a multiple other tasks to make these nine one-hour courses truly remarkable. The pheasant trials at Buffalo may have their Roy Johnson, but the grouse trials have dug up his equal in both Leroy Gleason, State Game Protector, and Charles Elder, both of Jersey Shore, Pa. One would never guess that this was the first event as everything seemed to click with precision in spite of interruptions due to the inclement weather. The Penn-

(Continued on page 30)



Four Bald Eagles quarreling over a large carp that one of their number had just caught in the shallows.

Predators on a Game Refuge

By Earl L. Poole

Illustrations by the Author

DURING recent years there has been a very definite shift, among the more enlightened sportsmen, toward the concept of predation as a much more complex problem than was formerly the case. This change has resulted largely from the many more or less exhaustive studies of the stomach contents of various predators that have appeared from time to time. While these have undoubtedly shed considerable light on the problem, there is always a strong possibility that the circumstances of the alleged predation have not all been explained, and that dead, wounded or diseased prey may form a considerable percentage of the sum total. For instance, nearly everyone can recall numerous observations of predators feeding on dead birds and animals on the highways, and it is not difficult to imagine the part that many of the predators, which are usually not averse to eating dead flesh, play in the disposition of various creatures that have met either natural or violent deaths, or have been otherwise wounded or crippled.

For example, the opossum, which is a notorious scavenger, might appear at times, on the basis of its stomach contents, to be one of the "destructive" predators, yet I doubt whether an opossum ever catches a healthy game creature under normal conditions, and a Red-tailed Hawk that tries to get at pheasants in a trap need not be capable of catching a free and perfectly healthy Ringneck.

For the past fifteen years I have made frequent visits to a nearby auxiliary game refuge, covering some 3,500 acres. In that time I have seen much that leaves me to believe predation is a much less serious factor in the abundance of wildlife on such an area than some would lead us to think, and that whatever changes in population have occurred have been due more to radical changes in environment, caused by the increasing crowding of pines, the draining of marsh areas, and the alternate raising and lowering of the level of the artificial Lake Ontelaunee which forms the center of the area.

It is evidently these factors that have resulted in the disappearance of such species as the Bobwhite, the rails, and the Blue-winged Teal as breeders, while other species more adaptable in their habits, have long been maintained at the saturation point; as evidenced by the fact that in the past six years some 13,000 rabbits and 1,500 pheasants have been removed from the refuge for stocking elsewhere, and a certain amount of supervised trapping of fur-bearers has been permitted in parts of the tract. Today I would venture to say that there is much more wildlife on the area than there was at the time of the establishment of the refuge, and much of the excess has spread into contiguous areas, in spite of the fact that the so-called predators are also probably just as numerous as ever.

Woodchucks are more abundant than in any other area known to me. Muskrats thrive as nowhere else in this region, and skunks,

opossums and weasels have become so tame that they hunt by day more frequently than I have seen them elsewhere. Even the wily mink is occasionally seen abroad in daylight and its tracks are more frequent in winter than in any other nearby tract, a fact to which I shall return later; while each morning fresh 'coon tracks thread the muddy margins of the dam. The deer have moved in and made themselves thoroughly at home, and the lesser creatures, feathered and furred, have quickly followed suit, bringing with them their natural retinue of predators.

Ducks and other waterfowl have been increasing ever since the dam, which created a reservoir of over 1,000 acres, was built, and some species manage to survive our worst winters, even when the entire lake is frozen, sleeping on the expanse of ice, and going at evening to the numerous spring-fed streams in the neighborhood to feed.

I have undertaken to record some of my observations over this period, in the belief that they may shed some light on the relationship of some of the creatures that have made this refuge either permanent or temporary stamping ground.

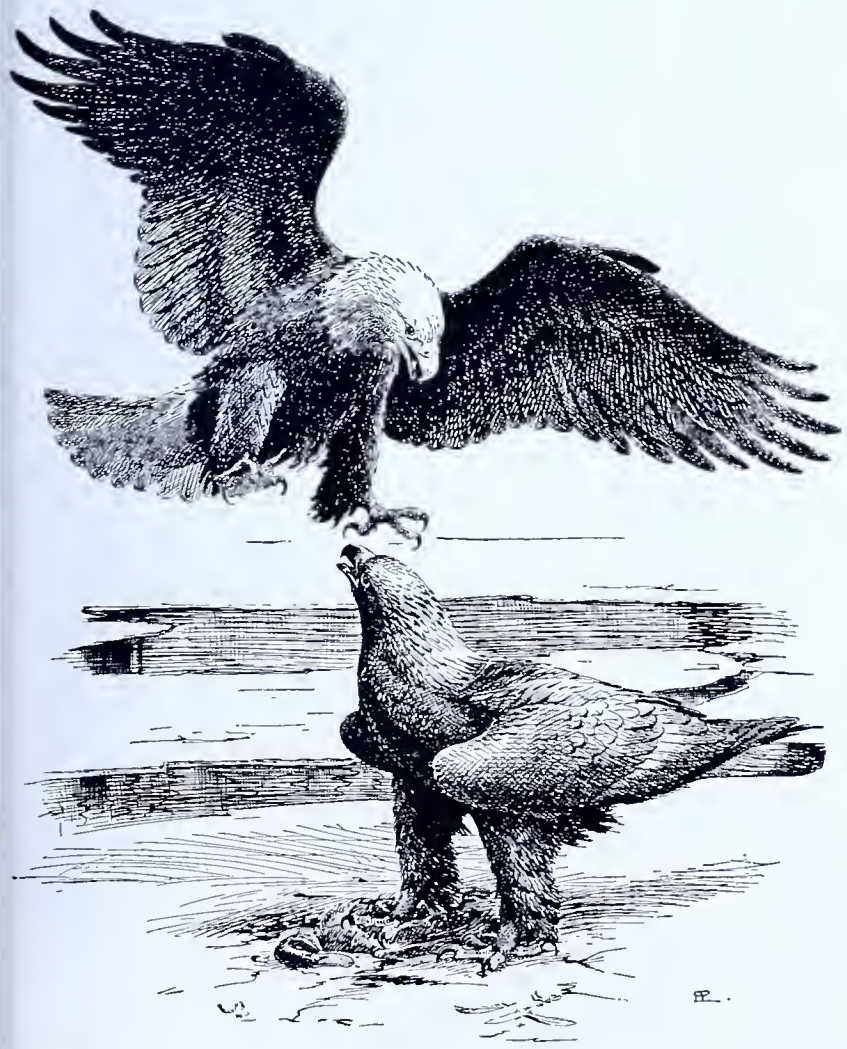
Most of these observations are distinctly fragmentary and unsatisfactory, as it is obviously unsafe to jump at conclusions or to guess what may have been the intention of the creature at the time of the observation. In any event I felt them worth recording at the time they were made, since they present a picture that may in a way supplement the previously mentioned studies of stomach contents that have been our main source of information on the food habits of the predatory birds and beasts.

During the winter this tract probably contains more birds of prey than any similar one this side of the great tidal marshes of the lower Delaware and Susquehanna. When weather conditions are favorable, during the best hunting hours—in the early morning and late afternoon—a dozen or more hawks may often be seen in the air from one point. At other times of the day they can usually be seen perched on the taller trees that rise above the young pines which cover the greater part of the watershed.

Naturally the most spectacular of the birds of prey that turn up at Ontelaunee with any regularity are the Bald Eagles. Sometimes



Every time the falcon swooped the duck would dive.



She of the white head returned, attacked, and drove her "nobler" relative away.

as many as five can be seen at one time, and the same individuals may remain about the tract for months at a time, especially during an open winter. I have always felt that this fine bird has been grossly misrepresented as a scavenger and a parasite on the Osprey. It is probably a case of a bad name that has been perpetuated by the tendency of certain nature writers to borrow from one another, without duly checking on the facts.

In the present case, the lake is well stocked with carp, and in the shallows, especially at spawning time, these fish become easy prey to the eagles. They catch them with little difficulty, and although the eagles often appear lazy, as one might expect in such a heavy bird, they are fully capable of picking a basking carp from the surface with an expert claw. I have never seen them execute the spectacular dives of the Osprey, commonly known as fish hawk. When fishing they fly close to the water, or perch on one of the stranded logs or stumps and make a quick dash at the unsuspecting quarry.

One of the most grotesque sights of the sort I have ever seen was a group of four immature Bald Eagles quarreling over a large carp that one of their number had just captured in the shallows. Number one caught the fish and dragged it to the shore, when the others, attracted by the commotion, came in one by one and sat around on the ground, eyeing the proceedings. Now and again one of the new-comers would ruffle its feathers, partially spread its wings, and rush the successful fisherman with awkward hops, hoping no doubt to bluff it away from its quarry; but it was not so easily frightened, and stood its ground, retaining its grip on the battered fish until the others, now fighting among themselves, contented themselves with standing about, hoping for some remnants of the feast.

On several occasions I have seen the Bald Eagles dive repeatedly after ducks and coots on the water, but never, while I watched, did they succeed in capturing one. During the winter of 1939, however, there was an outbreak of some sickness among the ducks, and I have no doubt that the eagles found some of the sick ducks easy prey, as plucked carcasses were occasionally found at some distance from the water, and every evidence pointed to the eagles as the only predators capable of dragging them that far.



Just behind the last one came a goshawk.

During this winter an incident occurred which may illustrate the relationship between the rarer Golden Eagle and its commoner relative. A large female Bald Eagle was feeding on the remains of a defunct mallard which it had found on the ice. Upon completing its meal, it flew to the top of a large Norway spruce that stood nearby, when a Golden Eagle came down to clean up the remains of the meal. Thereupon she of the white head returned, attacked and drove her "nobler" relative ignominiously away. So far as I have been able to determine, both species have a wholesome respect for one another when they are together. The Golden Eagle sometimes harasses a Bald when he finds it perching on a tree upon which he feels that he has some claim, but in most cases the Bald is totally unconcerned, and may even drive the other way. Certainly there is no hint of the Golden Eagle holding any mastery over "Old Baldy."

On the wing the Golden Eagle seems much the more agile flier, especially when hunting over the uplands. It loves to hunt where a strong breeze carries an updraft on a hillside, so that it can coast along on the current, and come suddenly upon some unsuspecting pheasant or rabbit over the brow of the hill. At times it also uses the Bald Eagle's tactics of diving repeatedly at the ducks, forcing them to dive until either the eagle tires or one of the ducks becomes exhausted and comes up within easy reach. Once I saw a Golden Eagle, which had just missed a pass at a pheasant, make a swoop at a large flock of geese that were feeding in the shallows, but in this case the geese appeared almost unconcerned, except that they called a little, and remained on the alert while the Eagle continued to soar about overhead. It did not repeat the attack, and I am inclined to think that healthy geese have little to fear from eagles, altho the latter may often be seen hanging around the outskirts of large flocks of geese, hoping to pick up an injured or sick individual.

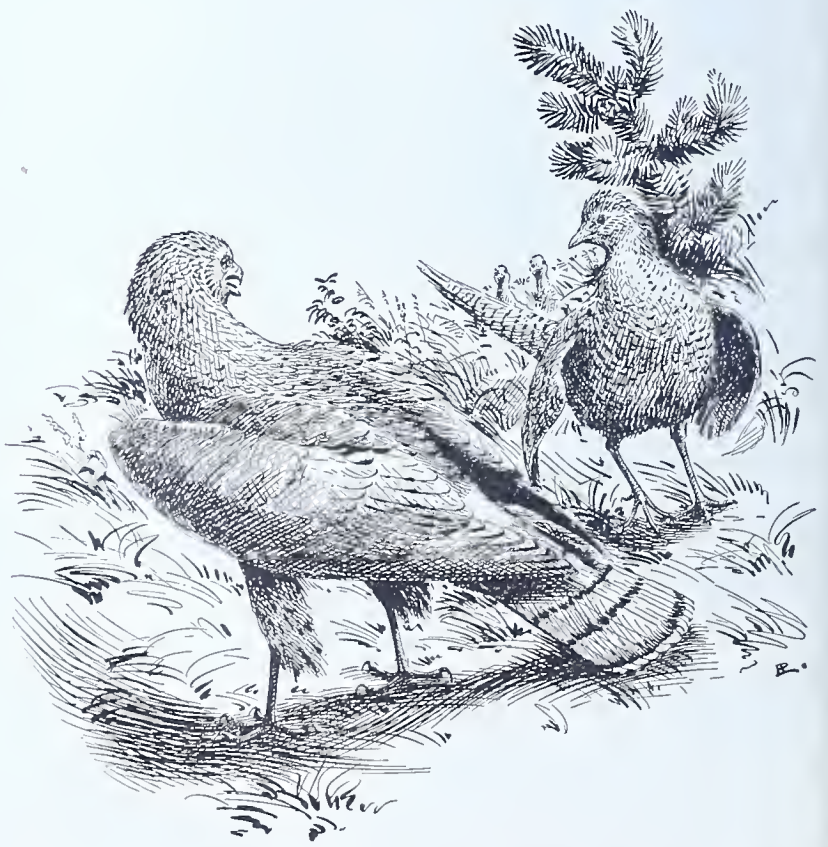
The Golden Eagle must get some of the early and late woodchucks, as their method of hunting would enable them to readily surprise the groundhog in an unwary moment, but of this I could never be sure. In the one or two cases that I have observed the woodchuck got into his burrow in time.

Fully as spectacular as the eagles are the Duck Hawks that visit the area throughout the greater part of the year. A Duck Hawk is always worth watching. No other predaceous bird seems to have the sporting instinct developed to the same degree. Whether hungry or not, when it is on the wing, it is always ready for sport, even though there is apparently no question of food involved. During the winter of 1938-39 a lone Whistling Swan wintered on the refuge, spending its time on the small holes of open water that remained. I often wondered where it found enough food, but discovered on February fifth that it had found a little spring-fed pond on the area which always remains open and supports a lush growth of aquatic plants. Two friends and I had just scared it up from its snug harbor, and watched it wing its way back to the main dam, when a Duck Hawk dropped from the sky and grazed its back, knocking some feathers loose, and forcing the Swan to lose altitude. At a second swoop the swan came still lower, and just missed coming to grief on a fence that flanked a causeway above some open water where it finally took refuge. I am quite sure that there was no intent on the part of the falcon to kill the swan. It was just too good a target to miss, so the bird evidently tried his aim.

Another time I was parked on the same causeway where the previously mentioned action took place, watching some Yellowlegs and a variety of smaller Sandpipers on a mud flat, when the shorebirds suddenly took wing, scattering in every direction, while with an audible roar of wings, not unlike that caused by the Nighthawk in its mating dive, an immense Duck Hawk swooped to within a few inches of the mud, zooming up so that it just grazed the car, and then hovered overhead to watch the results of her dash among the panic-stricken sandpipers. Some species like the Snipe and Pectoral Sandpiper realize that they are safer on the mud flat, and remain "frozen" as long as a Duck Hawk is in sight.

Sometimes the falcon will play with the ducks that are resting on the water. One big female spent the better part of a half-hour teasing a little band of ducks that was bunched in the deeper water. Every time the falcon swooped, the duck that thought *it* was the target would dive, throwing up a spurt of water that sometimes seemed to squirt several feet into the air. The falcon zoomed upward, and the ducks would bob up again like corks, only to have the same performance repeated over again. It struck me at the time that the other wild fowl that were not directly threatened by the swoop sat tight while this action was going on. None of them became panicky and none took to flight, evidently knowing that they were safer in the water. All the ducks seem to know this. Several times I have noticed a duck hawk swoop at a flock of ducks, and as soon as the ducks realized that the enemy was in their midst, if they were over the water, they would drop like plummets into the friendly depths below, each one sending up a tremendous splash. When thoroughly frightened they are apt to stay under the surface long enough to make sure that they will come up a considerable distance away. Sometimes a pair of falcons will hunt together, one circling at a great height, while the other will work at a much lower elevation, hoping to cause some unwary quarry to take flight where it may be struck by the higher partner. Curiously enough, we are told that these tactics were also employed by the famous "flying tigers" in their aerial warfare over China.

It has always seemed remarkable to me that of the many swoops that I have seen these falcons make, so few were successful. Maybe they are just playing much of the time—or possibly the ducks are just clever enough to avoid the dive, when they are healthy and on their guard. Many times I have only became aware of the nearness of the falcon, and of other dangerous hawks



The old female calmly walked up to the harrier and pecked at him.

as well, by watching the behavior of the shorebirds and waterfowl. They can evidently identify the hawks and read their intentions while they are mere spots in the sky, even when seen through high-powered binoculars. When the ducks cock their heads and peer into the blue, you can count on it that there is a threat in that quarter. If it is identified as a buzzard, osprey, or some other harmless species, their interest is brief and casual, but if it is a Duck Hawk, they watch it as long as it is in sight.

Pigeon Hawks are among the rarest species to visit the refuge, yet they may be among the deadliest, so far as the shorebirds are concerned. One day, after a particularly severe storm I was watching a number of shorebirds that had been blown inland by the gale. High water had obliterated all beaches and mud flats and the waders were forced to rest on the miscellaneous flotsam that had been washed against the shores. While looking them over for the rarer species that are apt to occur under such conditions, a Pigeon Hawk, by rare chance, plucked up an unsuspecting "peep," and carried it off, struggling and screaming in terror.

While the eagles and falcons are spectacular in their hunting, the more deadly species, the Goshawk, Cooper's and Sharpshinned Hawks are seldom seen for more than an instant at a time. I must confess that I have seldom seen a bit of action involving any of these species that could be followed long enough to make its recounting worth while.

One day a group of four pheasants came out of a weedy field along the edge of the water and hazarded a long, low flight across a narrow part of the dam, immediately plunging into the dense growth on the other side, while just behind the last one came a Goshawk that had evidently been stalking them in a jungle of cockle-burs. With direct and deadly flight she followed the little band across the water and disappeared into the growth where they had taken refuge, to continue her deadly stalk.

One cold day when the sedge and marsh grass was matted down by snow into little tents, I watched a Cooper's Hawk stalking through these grass tents with the stealth of a cat, hoping to catch one of a flock of tree sparrows that had taken refuge there. This hound-like persistence of the Cooper's Hawk often gets it into trouble, and individuals have more than once found themselves in the live traps that are used on the refuge to remove the surplus pheasants to other and less happy places. Whenever the birds become unusually scarce, or suddenly disappear, leaving one with the sense of impending disaster, you can usually look into the air or scan the trees and bushes for one of the long-tailed, short-winged accipiters. *They* are the ogres of the bird world, and the birds all recognize and fear them beyond anything else. To the other hawks they pay little attention, more perhaps to the Marsh Hawks than the others. Even then I have seen a Marsh Hawk perch on the ground and edge up to a group of nearly-grown Ringnecks. It was apparently indulging in a game of bluff, until the old female who was with the brood, calmly walked up to the harrier and pecked at him in no uncertain terms, upon which he promptly took to wing in search of easier prey.

It is with the comparatively large numbers of Red-tails that are constantly on the refuge during the winter months, the less numerous Rough-legs, red-shoulders and broad-wings that come and go, and the uncertain number of owls that inhabit the tract, that I am sure the mice and other small fry are more concerned than anything else. No doubt the Red-tails get an occasional sick or undersized rabbit, and the other species may stumble upon some easy prey that is not on their usual bill-of-fare, but judging from the pellets and other offal that is found around their perches, the mice, that have for several years girdled the seedling pines in alarming numbers, are now paying for their ancestors' sins. Certainly, any inroads that the Red-tails may make among the game on the area is negligible, for the rabbits are more abundant today than they ever were, more are captured in the drives each year and removed elsewhere.

What I have noticed that is not so generally publicized is the predacious or parasitic habits of the Herring Gulls that frequently come to the lake. On more than one occasion I have seen them deliberately attack the ducks with murderous intent, and one of their favorite tricks is to seize the mergansers by the head or neck and deliberately attempt to drown them. Whether this is really done in an effort to force them to disgorge their partly digested fish, I am unable to say, but the attempt is a rather murderous looking assault, as often several gulls will harass one



Mink are more concerned with what goes on in the grass tussocks.

merganser until the unfortunate creature seems close to drowning. Then in winter the crows have a way of harrying the ducks when they are settled on the ice. They sometimes walk among the resting waterfowl and jostle them about, pecking viciously at the defenseless creatures. Whether they actually kill them or not I cannot say, but I have seen crows feeding on carcasses too often not to suspect them of murdering weak or ailing specimens. They also search out the nests of rabbits and meadow mice, and make many a meal on the nestlings of both of these rodents. In the spring I have often seen large spaces on which the crows have torn open and scattered every meadow-mouse nest in the area.

As for the weasels and minks that inhabit the refuge, I doubt whether they do serious damage to any of the inhabitants larger than mice. Weasels, undoubtedly are fairly abundant, but whenever I have come upon them they were evidently hunting mice, and since these are generally abundant, they probably have little cause to tackle larger prey during the greater part of the year. but on one occasion one was carrying a naked young mole, and twice, young rabbits. The mink, to judge by their tracks, are more concerned with what goes on in the grass tussocks than they are with anything else. Of two specimens taken on the refuge, one had eaten a young short-tailed shrew, the other, a very small rabbit. There is one marsh on the tract where Rinknecks roost in large numbers. I have repeatedly flushed thirty or forty out of it on winter mornings, and the mink trails often lead through the roosting area, yet I have never seen a dead pheasant in this marsh, and the muskrats are nowhere so numerous as in the midst of this area that is patrolled by the mink almost nightly, to judge by their tracks and snow-tunnels.

Red foxes also are present in small numbers. Several have been killed by the game protectors, but I have never noticed that they were nearly as much in evidence in the area as the wild house cats that are continually on the prowl. Both of these species feed chiefly on the abundant mice, but there is no denying that they probably take a certain amount of the game during the breeding season.

Altogether if I were to sum up my impression, arrived at with an open mind, I would say that in this tract, over the 15 years mentioned, nature has apparently struck an optimum balance. Efforts at "control" of any sort have been at a minimum and even then, often misdirected; yet a goodly overflow crop of game comes from the tract each year, a closely regulated amount of trapping is permitted; and the predators, so far as I have been able to see, have made no appreciable inroads on the other population.

★ ★ ★ CURRENT TOPICS ★ ★ ★



Photo by W. L. R. Drake

Game Protectors are sometimes called upon to remove beavers from sections where they are committing depredations and transfer them to other locations. Not infrequently do the little builders flood roads with their dams, or obstruct mill races, and when they do they are live trapped as quickly as possible. The flat-tail in this photo proved obstinate.

Sportsmanship

No one is infallible, but when you run across a fellow who is honest enough to admit it, that is something to write home about. In the process of handling the almost forty thousand special deer applications one belonging to Arthur Crumb, Williamsport, requesting a permit for Lycoming County, was received in plenty of time, entered, and he was notified that the reservation had been made.

But then in slipped old man infallibility, and in the stress of issuing the licenses Mr. Crumb's application got over into the McKean County pile and he received a license in that county instead. Was he mad when the Commission explained the situation? Not a bit. He understood, and Lycoming County in the meantime having been exhausted of its quota, and not wanting to hunt anywhere else, he was perfectly satisfied just to have his money returned.

"Rabbits were trapped from the Army Motor Base at the Reading Fair Grounds because they have become so numerous that they distract the attention of the dogs who accompany the guards on patrol duty during the night and the dogs are more anxious to chase the rabbits than they are to accompany the guards. It is hoped that more can be trapped during the regular trapping season—Joseph A. Leindecker, Game Protector, District A-2.

Two non-residents, John T. Roll, Chief Conservation Officer, Conservation Department of Indiana, and Gene Ryan, Investigator of the Governor's Office of that state, sampled Pennsylvania's deer hunting last month in Warren County near Sheffield. Fact is they did more than sample it. Mr. Ryan took out a regular chunk in the form of a nice 7-point buck. Mr. Roll who missed his chance, will try his luck another year.

Here and There

The Delaware County Field & Stream Association has been carrying on a cooperative program with farmers in that section by helping them during harvest time. Many landowners cooperate, good hunting is enjoyed, and a lot of real honest to goodness farm work is accomplished. The association sends a letter to all farmers in the county every year soliciting their assistance, and asking them if and when any of its members can help.

Because of the epidemics of infantile paralysis during 1943, which necessitated the expenditure of unusually large sums of money, The National Foundation for Infantile Paralysis is anxious to have every possible medium in the United States cooperate during its 1944 Fund-Raising Appeal, which will take place from January 14 to 31 inclusive. If you are interested mail your contribution to the Annual Fund-Raising Appeal of the Foundation at 120 Broadway, New York 5, New York.

Every now and then we hear some nice things about some of our former associates. The last word of this kind just came about Walter Gresh, formerly with the old Division of Refuges and Lands, who is now Acting Chief of the Federal Aid in Wildlife Restoration, U. S. Fish & Wildlife Service, Chicago. He's doing a swell job but gets a little homesick now and then for good old Pennsyvania. Drop him a line sometime, those of you who were old pals with Walter when he was with the Commission.

And don't let us forget Donald Keefer, formerly with the Division of Public Information, who is making his way upward in the theatre. His latest role is playing Helen Hayes' son in "Harriet."

Fixed Charges

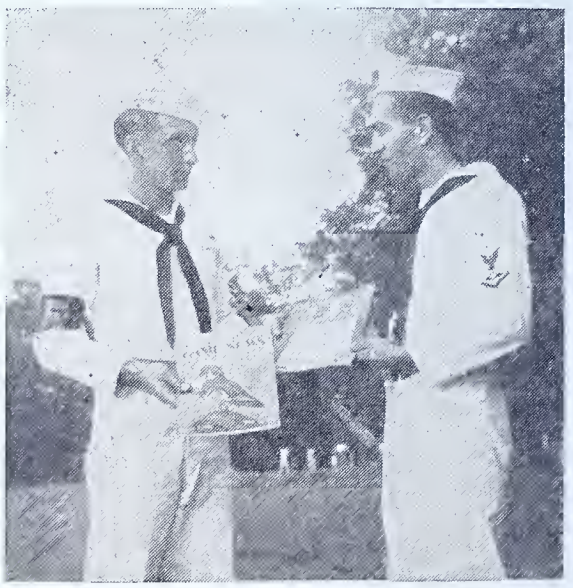
The treasuries of 62 counties, 360 Township Boards of Road Supervisors and 365 Township Boards of School Directors were recently enriched by the sum of $36,611.34, this amount being spent from the State Game Fund to cover Statutory Fixed Charges for the year 1943, in lieu of taxes, which are paid annually for all State Game Lands and State Game Farms in the respective counties and townships.

County Treasurers are paid one cent for each acre of such land in the county concerned. Treasurers of Boards of Road Supervisors and Boards of School Directors are each paid two cents per acre for the area in each Township concerned.

There are still many residents of Pennsylvania who think that when land is acquired by the Game Commission, local taxing authorities are deprived of the taxes they would ordinarily collect on such lands when in private ownership. As a matter of fact, since 1920 when the Commission's Land Purchase Program started, the Commission has paid five cents annually for each acre owned in a county or Township. For the year 1943, total payments reached the tidy sum of $36,611.34. Of this, 62 County Treasurers received $7,318.68, the 360 Treasurers of the Boards of Road Supervisors received $14,637.04, and the 365 Treasurers of the Boards of School Directors received $14,655.62. The ten counties receiving the largest amounts follow:

Elk	$2,333.55
Sullivan	2,219.79
Lycoming	1,859.16
Bedford	1,835.16
Bradford	1,826.74
Centre	1,616.69
Warren	1,468.15
Wyoming	1,286.14
Luzerne	1,224.38
Jefferson	1,193.59

November 29, 1943.



"How would you like to look at this copy of the 'Game News' while I take a peep at the fishing notes in the 'Angler'?" E. L. Creamer, left, parachute rigger (2/c) from Lancaster, Pa., asked his friend R. N. Pethan, aviation machinist's mate (2/c) from Chelton, Wis., as on a recent visit to Philadelphia they exchanged copies of these magazines furnished by a fund raised through the Montgomery County Federation of Sportsmen's Clubs to provide hunting and fishing news from home for men in the service.

NOTICE!

To insure not only full credit for any photos submitted to Game News, but their prompt return in case such is your desire, we implore all contributors to place their name and address on the back thereof together with a description of the illustration. Too often photos are submitted without this information and occasionally, though not often, they become accidentally detached from the correspondence which contains the description. Usually we can associate the two, but sometimes we cannot, and are therefore placed in the embarrassing position of not being able to use the photograph or even return it. Of course the fault lies with us for not always transferring the data from the correspondence to the illustration before we send it to the engraver, but we are not infallible, especially with hundreds of pictures to deal with, and sometimes we hesitate to place any inscription on the backs for fear the donor will object. The best way to submit photos is to either type or write the information on a separate sheet and paste it on the back or at the bottom. Sometimes the pressure of a pencil on the back will show through and mar the qualities of the picture. Your help, please!

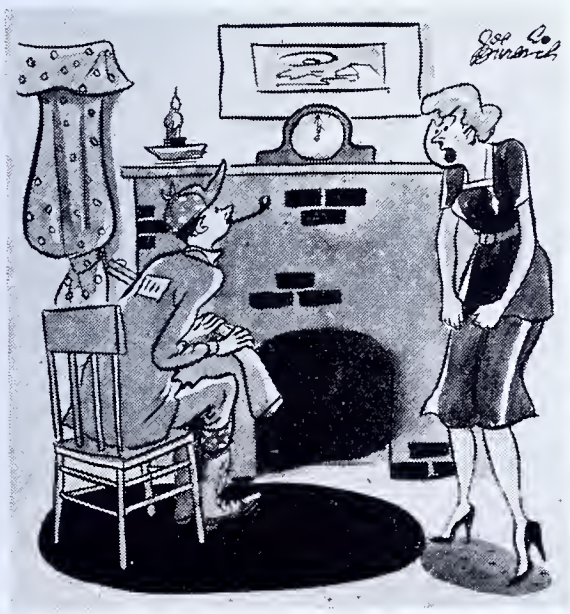
E. M. Magee, of Oil City, told the best deer story on the opening day of the season while in Clearfield on Nov. 30.

Magee, who was hunting in the Penfield area, brought down an eight-point buck weighing 160 pounds after a "you chase me and I'll chase you" battle with the forest monarch.

Magee said that he was resting against a tree when a small doe wandered by without noticing him. Close on the heels of the lady came a bigger doe and a buck. Magee shot the buck, but only wounded it. It took flight, he after it. Catching up to the wounded animal Magee wandered too close and the buck put him to flight when he charged with head down.

Magee claims he didn't catch him, but it was close until the loss of blood took its toll and the animal lay down and died.

Magee had the deer in town to prove his story.



"I don't care if you HAVE got a license. Nobody shoots his reindeer!"



Photo by Delbert Batcheler

Wm. F. Nelson, R. D. 1, Wellsville, Pa., left, and N. I. Thompsen, Secretary of the Hunter's and Angler's Association, Harrisburg, with record moose killed by the former while hunting about 75 Miles north of Kippiawa, Canada, on Sept. 20. The large bull weighed about 1,500 lbs., and its rack measured 65 inches across. According to O. J. Cunningham, Game Warden of Quebec and other old timers from the Province it was the most perfect specimen seen in 85 years and only 1½ inches short of the record rack of 66½ inches shot 23 years ago. The record rack had one unusual point several inches longer than the same point on the other horn and was not nearly uniform.

The Beaver Season

The ninth beaver season in Pennsylvania will get under way on February 15 and close February 29. It is confined to 22 counties and only traps may be used in catching the much-sought-after animals. Counties open include Bradford, Butler, Cameron, Carbon, Columbia, Centre, Clearfield, Elk, Jefferson, Lackawanna, Lycoming, Monroe, Montour, Northumberland, Pike, Snyder, Sullivan, Susquehanna, Tioga, Union, Wayne, and Wyoming. *Non-Residents may not trap beavers.*

One person may set, tend or operate 10 traps only and trappers are required to keep tags above ice or waterline to facilitate identification without disturbing the traps.

The pelts of beavers must be presented to a Game Protector for tagging within 10 days after the close of the season. It is best to have the pelts tagged by the Game Protector *of the District in which the animals were taken.*

The first beaver season in the Commonwealth was established in 1934, from March 1 to April 10. During that year 6,455 beavers were taken in 50 of the 67 counties. No season was declared in 1935, but in 1936 another state-wide season was established between March 16 and March 31, when 2,261 beavers were taken in 49 of the 67 counties. Another state-wide season was declared in 1927 from March 1 to March 15, at which time 1,222 animals were taken in 50 of the 67 counties. In 1938 the season was limited to 18 counties only from February 15 to February 28, during which time 541 beavers were taken. In 1939 the open counties were limited to 8, from February 15 to February 28, during which 353 were taken. Twenty counties were open in 1940 from January 15 to January 31, when 703 beavers were taken in 19 counties. In 1941 forty counties were open from March 1 to March 15, and a total of 1,195 animals were removed from 28 counties. In 1942 the season was open in 14 counties from February 14 to February 28 when 1,143 were taken, and in 1943 the season was open statewide and 2,011 were taken. All in all, a total of 15,884 beavers have been trapped since 1934, having an estimated fur value of approximately twelve dollars per pelt, of $190,608.

The animals are more than holding their own as can be readily seen from the above mentioned annual harvests. The Commission is interested in hearing of any new beaver dams.

Appreciation

"As president of the Grand National Grouse Championship Club, I want to take this opportunity to thank you and your Department for the fine cooperation given our new Club while running our first trial at Black Forest.

"Without a doubt this was the greatest Grouse Trial ever held in the United States, and a large part of the success was due you, and such commissioners as Harold Moltz and Dr. H. E. Kilgus. As for the work done on the grounds, no one could have given more help than District Game Protector, Leroy Gleason of Jersey Shore. I wish I could, personally, thank all of the following fellows. Robert Sinsabaugh, Chester S. Siegel, Mr. Thomas Bell, Division Supervisor, John Langenbach, Mark Hagenback, Jack Brion, Carl Bidelspacher, and several others. I would also like to thank your Department for sending Wm. Drake, the official photographer. Included in this long list is Mr. W. C. Ryder, Traveling Game Technician, who was also in attendance. I know of no other State that would have given us such good grounds and such wonderful cooperation.

"While we in Michigan have a very fine and cooperative Conservation Department, I would have liked to have had them present to see just what Pennsylvania's did while running a field trial. After this first trial I am convinced that with such wonderful help from such a wonderful organization, that we should run our 1944 Championship again in the State of Pennsylvania.

"Again, thanking you for your very fine help, I am"

Sincerely yours,
JNO. M. HADAWAY,
President.





A young Woodcock only a few hours old, sitting on a piece of decaying log.

At first the nest was inspected about twice a week, but as the eggs neared hatching a visit was made each day, and at these visits we usually took one of her eggs from under her to see if it was pipped, for we were anxious to get a picture of the young, who an hour or two after hatching can run off into the dead grass with their mother and be lost to even the most experienced eye.



Some idea of the protective coloration of the young may be had by this picture of the four young in their nest among the shells of the eggs from which they had hatched a few hours before.



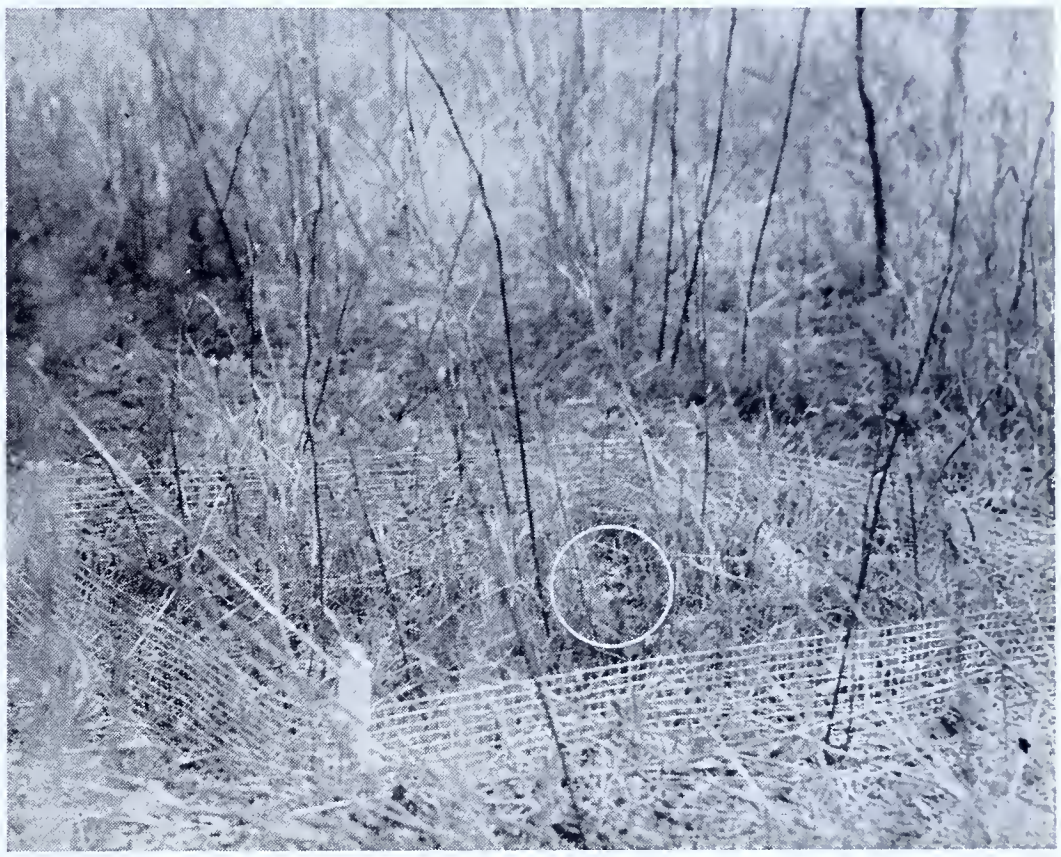
Late one afternoon when we visited the nest and took an egg from under the mother bird we saw it was pipped, and knew that by morning they would be hatched. We were at the nest by 8:00 o'clock the next morning and there we found the four tiny young together at one side of the fence, and on the outside the mother sat as close as she could get, her breast feathers ruffled by the wire and her bill through the mesh, touching the bill of one of her young.

An Obliging Timberdoodle

By W. Bryant Tyrrell



The mottled feather pattern of the female Woodcock makes her almost indistinguishable on her nest among the dead leaves and grasses.



The female Woodcock in the circle on her nest in the center of the yard we made by erecting a fence, four feet six inches square, of one-half inch mesh hardware cloth.



The nest of the Woodcock is merely a depression in the ground, lined with a few dead leaves or grasses, in which the four cream colored eggs, spotted with various shades of brown, are laid.



On one of our regular daily visits to the nest shortly after we had erected the fence, we found a Pilot Black Snake nearly five feet long with its nose almost to the edge of the fence. He was promptly photographed, and then captured, but later released far from the Woodcock's nest. For, though they are normally a beneficial snake, we did not want it to make a meal of the eggs, or the mother bird, as he no doubt would have, had we arrived much later.

Selective Service for Every Acre

The slogan, "Selective Service for Every Acre," states an objective for the Soil Conservation Service with the Nation at war. Dr. Hugh H. Bennett, Chief of the Service, emphasized this objective when he recently wrote: "There has always been one basic reason for soil conservation—the extent of its contribution to the welfare of mankind. Today that welfare depends on our success with respect to the prosecution of total war. It is not enough to conserve soil and water; soil conservation must result in the utmost yield, without waste of any kind, of those products of the soil needed by the United Nations."

To make every acre produce good yields, we must recognize that agricultural lands are not all useful for the same purpose. Soil type, slope, erosion conditions and climate are factors which influence the agricultural capabilities of the land. Recognition of land for what it is capable of producing is a prerequisite to good planning and management. To try to produce high-yielding crops on low-class land, or conversely, wasting high-class land on low-yielding crops, is poor economy.

Agricultural lands may be divided into two groups: Those suitable for cultivated-crop production, and those suitable for the production of hay, forage, timber, wildlife and other products. Some lands are not subject to erosion and under ordinary management may be used for the continuous production of cultivated crops with moderate to high yields. Other lands must have simple erosion control or management practices for permanently productive use. These lands comprise the best croplands of the country. Many thousands of acres require intensive and complex management for safe use with production of at least moderate yields, and some land is so steep, severely eroded, or poor that it should be cultivated only occasionally and used chiefly for hay or pasture.

Lands not suitable for cultivation, yet subject to little erosion or other deterioration, are best suited for use as range, pasture or woodland. Somewhat steeper or thinner land requires special practices for permanent use, while the rough, steep, eroded or arid lands that require severe restrictions for range use or that are suitable only for woodland or limited pasturage make up another class.

Finally there are marshes, sloughs, box canyons, escarpments, rocky knolls and outcrops, sand dunes, deep gullies and galled spots that are clearly unsuited for the production of cultivated crops, hay, pasture or trees. These are examples of wildlife land—and to them must be added the area taken up by field borders, stream banks, ditch banks and odd corners. They total, according to recent careful estimates, some 33,000,000 acres, composed largely of small areas, a half acre here, 10 acres there, and they represent 2½ percent of all farm land and public land in agricultural production. They comprise in all an area equal in size to the State of New York. Of this total, more than a third, about 11,300,000 acres, is within organized soil conservation districts. The wildlife lands erode, often more than others do, but they can be controlled and made to produce crops—crops of useful plant and animal life—which is the "selective service" for these lands. The land-management biologist renders one of his most important services to the war effort by lending his particular skill toward putting as many of these acres as possible to productive use.

Increased production, however, is only a part of the contribution made by the Soil Conservation Service to farmers and ranchers, and through them to the Nation. Equally important are demonstrable savings in labor, fuel and equipment achieved through putting corn on the land best suited to corn, grazing livestock on the land best suited for pasture, and devoting to wood production the parts of the farm must suitable for tree growth. The biologists and other Service technicians help the farmer plan his farm organization and efforts in order to effect such savings.

The Izaak Walton League, through its local chapters and state divisions, is recommending studies of land use in various sections of the country as a basis for post-war activities that will result in greater benefits to both agriculture and wildlife.





The above photos show how D. F. Mohler, Lancaster, grew 7,025 Flowering Crabapple on 268 sq. ft. at a cost of about $5.00. They were planted 4" to 6" apart each way and from 3 to 10 plants on a bunch. He also tried individual plants the same distance apart and there was no better growth in both methods. Growth was from 6" to 18" top, and a wonderful root system which can be seen in the photos. The seedlings were raised in a hot bed in flats and when about 2" were transferred to the field. No irrigation was used.

Our readers will recall U. S. Senate Bill 1152 introduced by Senator Pat McCarran, Nevada, which was shelved sometime ago because of the threat it offered to the conservation program throughout the Country. Recently Secretary of the Interior Ickes sent a report on the Bill to the Senate Committee on Public Lands. In discussing the Bill Secretary Ickes said:

"In some localities the State Game Departments have been blocked by adverse public opinion in their attempt to make reductions in big game herds through liberalized regulations, extended seasons, and other inducements. It is conceivable that Federal agencies might be able to face violent public reaction more successfully than have the State Conservation Departments. Such a solution of the public opinion problem, however, is not satisfactory. It is felt that a better solution is to assist the States in changing public opinion as it relates to overpopulation of game animals, as contrasted with the forcible accomplishment of the desired end through Federal legislation. It is my opinion that the legislation not only is unnecessary but would not contribute materially to greater utilization of the public lands for grazing and other agricultural activities."

The Budget concurred in the report. It is important to remember that under the jurisdiction of Secretary Ickes there is not only the Fish and Wildlife Service, but also the Grazing Service, the Park Service, the Indian Service, and the Reclamation Service. All of these agencies are interested in wildlife in some degree. The Grazing Service is set up to administer the public lands under the grazing act. Secretary Ickes, therefore, was confronted with a dispute between two of his own children. He resolved it in favor of wildlife by recommending against the passage of the Bill.

We Want to Know

Who sent in a photo within the past two or three months showing a lot of dead deer piled on the snow.

One showing a lot of ringneck pheasants in a holding pen.

And another portraying a fawn nursing from a cow . . . Let's hear from their donors.

In november at bottom of page 26 we used a photo depicting G. R. Ball, Factory Inspector for McKean, Forest and Warren counties, a 6-point, 145-lb. buck killed Dec. 8, 1942, in Osmer Run, Warren County, and Mr. Ball's grandson, Denny Spencer, to encourage hunters to save their deerskins, but we forgot to mention who was who. Sorry Mr. Ball.

Game Birds of America

By Lynn Bogue Hunt

For almost a half of a century the flawless draftsmanship, exquisite color, and thrilling action of Lynn Bogue Hunt's sporting art have brought enjoyment and anticipation to sportsmen the world over. Probably no wildlife artist is better known to so many sportsmen, for his brush is as prolific as it is facile. Without wishing to cast any reflection on Mr. Hunt's future work, however, there will be many who agree that in his *Field & Stream* American Game Bird series he reaches the acme of accomplishment—the peak of his career.

Beginning with the December issue of *Field & Stream,* readers of that popular sporting magazine have an extra treat in store when they will have the opportunity to feast their critical eyes on the first of this series of twelve full-color inserts depicting Game Birds of America. Painted expressly for *Field & Stream,* and carrying on their reverse sides invaluable descriptive data—habitat, flyways, hunting methods—prepared by Ray P. Holland, outstanding game bird authority, this series will constitute the most concise, up-to-date portrayal of American game birds ever published.

The descriptive text, which will be printed on the reverse side of each insert, along with a facsimile of the original to aid identification, is designed to tell sportsmen what they should know if they wish to understand, identify and hunt game birds successfully. Ray Holland knows our American Game Birds with an intimacy gained through years of study and shooting from one end of the continent to the other. By distilling that knowledge and experience into a clear, accurate description of each game bird species, he brings added pleasure and meaning to Mr. Hunt's skillful painting.

In combining the talents of Lynn Bogue Hunt and Ray Holland to give its readers the ultimate in art and authoritative text, *Field & Stream* is confident that sportsmen will cherish this American Game Bird Series as one of their most prized possessions.



Harry Hauenstein, on tractor, and Game Protector J. M. Haverstick, Lancaster County. Mr. Hauenstein is one of the Commission's key men at No. 43 Farm—Game Project between Elizabethtown and Maytown. Note the flushing bar on the tractor, which he has used for the past four years. He sows a 30 acre patch twice a year and estimates that he saves approximately 100 pheasants and possibly 35 to 50 rabbits per year. His neighbor, Harry Zieger, who was responsible for getting the project started, has also succeeded in saving many young birds from the cruel knives of his mower.

GAME KILLED IN PENNSYLVANIA IN 1942 (FINAL REPORT)

Species	Wt. of Ea.	Season of 1941* Number	Season of 1941* Weight	Season of 1942** Number	Season of 1942** Weight
			Lbs.		Lbs.
Deer, Legal Antlered	115 lbs.	19,271	2,216,165	30,860	3,548,900
Deer, Legal Antlerless	80 lbs.	(Closed)	.....	(Closed)	.....
Total Deer and Weight		19,271	2,216,165	30,860	3,548,900
Bears	175 lbs.	593	103,775	149	26,075
Rabbits	1¾ lbs.	3,575,104	6,456,432	3,504,390	6,132,682
Hares (Snowshoes)	3 lbs.	(Closed)	.....	6,019	18,057
Hungarian Partridges	12 oz.	.....	.....	485	364
Squirrels	1 lb.	936,213	936,213	1,201,979	1,201,979
Raccoons	10 lbs.	44,145	441,450	32,664	326,640
Wild Turkeys	10 lbs.	3,911	39,110	3,938	39,380
Ruffed Grouse	1⅛ lbs.	187,990	250,654	237,408	316,544
Ringneck Pheasants	2¾ lbs.	537,990	1,479,473	463,794	1,275,433
Quail	6 oz.	70,929	26,598	68,409	25,653
Woodcocks	6 oz.	31,328	11,748	27,729	10,398
Wilson's Snipe, Gallinules and Rails	4 oz.	4,162	1,040	2,671†	668
Grackles (Blackbirds)	2½ oz.	46,566	7,276	38,888	6,076
Wild Waterfowl	2½ lbs.	55,836	139,590	64,454	161,135
Woodchucks	6 lbs.	196,729	1,180,374	184,921	1,109,526
Total Number and Weight		5,710,767	13,089,898	5,868,758	14,199,510
Reduced to Tons Equal			6,645 Tons		7,100 Tons

* Reports from 97½% of the 687,134 licensees.
** Reports from 96.4% of the 648,759 licensees.
† Does not include snipe, season closed.

1942 HUNTING SEASON ACCIDENT (FINAL REPORT)

Total Accidents	Fatal No.	Fatal Percent	Non-Fatal No.	Non-Fatal Percent	Total No.	Total Percent
Self inflicted	8	30.8	23	7.0	31	8.8
Inflicted by others	18	69.2	304	93.0	322	91.2
Ages of Victims						
Under 21 years of age	14	53.8	100	30.6	114	32.3
21 years of age and over	7	27.0	189	57.8	196	55.5
Age unknown	5	19.0	38	11.6	43	12.2
Ages of Persons Inflicting Injury						
Under 21 years of age	10	55.5	50	17.9	60	20.1
21 years of age and over	5	27.8	152	54.2	157	52.7
Age unknown	3	16.7	78	27.9	81	27.2
Kind of Game Hunted						
Large game	5	19.2	23	7.0	28	8.0
Small game	21	80.8	304	93.0	325	92.0
Accidents Occurred Thru Use of						
Shotgun	15	57.7	291	89.0	306	86.7
Rifle	10	38.5	36	11.0	46	13.0
Revolver	1	3.8	....	....	1	.3
Causes of Accidents						
Gun placed in dangerous position	4	15.4	25	7.6	29	8.2
Ricochet or stray bullet	..	....	57	17.4	57	16.2
Did not see victim in line of fire	11	42.3	192	58.7	203	57.5
Hunter slipped and fell (with safety off)	6	23.1	26	7.9	32	9.1
Shot in mistake for game	4	15.4	8	2.7	12	3.4
Loading or unloading guns	..	....	9	2.7	9	2.5
Firearms exploded (unsafe firearms)	1	3.8	10	3.0	11	3.1
Where Accidents Occurred						
Fields	14	53.8	93	28.5	107	30.3
Brush	5	19.2	115	35.2	120	34.0
Open woodland	2	7.8	50	15.3	52	14.7
Dense woodland	2	7.8	45	13.7	47	13.3
Conveyance	..	....	2	.6	2	.6
Camp	1	3.8	....	....	1	.3
Woods road	1	3.8	12	3.7	13	3.7
Public highway	1	3.8	10	3.0	11	3.1
Weather Conditions						
Clear	18	69.3	231	70.6	249	70.5
Rain	2	7.7	39	12.0	41	11.6
Snow	4	15.4	10	3.0	14	4.0
Fog	1	3.8	9	2.7	10	2.8
Light	..	....	21	6.4	21	6.0
Dusk	1	3.8	10	3.3	11	3.1
Dark	..	....	7	2.0	7	2.0
Red Worn by Injured						
Red cap	2	7.6	95	29.05	97	27.5
Red back	1	4.0	27	8.25	28	7.9
Red cap and back	6	23.0	85	26.0	91	25.8
No red worn	17	65.4	120	36.7	137	38.8

SUMMARY OF ALL CLASSES OF 1942 SHOOTING INJURIES

Fatal ..... 26—7.4% Non-Fatal ..... 327—92.6% Total ..... 353—100%

One fatal accident for every 24,952 licensees—One non-fatal accident for every 1,984 licensees.
Preliminary reports indicate 648,759 hunting licenses were issued in 1942.

1942 HUNTING ACCIDENTS COMPARED WITH PREVIOUS TEN-YEAR PERIOD

	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	Total	yr. av.	1942
Fatal	54	31	28	55	23	45	50	44	43	26	399*	39.9	26
Non-fatal	275	252	254	252	159	336	438	346	419	370	3101†	310.1	327‡

* Of this total 30.8% were self inflicted and 69.2% inflicted by others.
† Of this total 7.7% were self inflicted and 92.9% inflicted by others.
‡ More complete reports now available, as prior to 1937 the filing of reports was not mandatory.





Results of first day of small game season of 1942 in Henry's Valley, Perry County. Five members participated including Joe Bender of Loyalsville who is shown on the photo. Incidentally we are always on the lookout for good photos, not only of dead but of live game. Good scenics are also much desired. So, if you have any good shots around send them in. Thank you.

Weston Seaife, Barbours, with fine trophy bagged last season.

Chaplain Kulp Promoted

Promotion of Chaplain Darlington R. Kulp from first lieutenant to captain was announced at Camp Hood, Texas on Nov. 27. He is assistant to the chief of the chaplain's section. He is a native of Reading, Pa., where he was pastor of the Memorial Baptist Church. He is a veteran of World War I, having served 19 months as an enlisted man, most of it in foreign service.

Before reentering the service in February of this year, Chaplain Kulp was chosen president of the Pennsylvania Federation of Sportsmen Clubs, an organization of 180,000 members. He also is a member of the Reading, Pa., Public Housing Authority, and has been active in conservation work as a national director of the Isaak Walton League.

After completing a course at the Army Chaplains' School at Yale University, Captain Kulp was assigned to Camp Hood in March.

His wife, Elizabeth Kern Kulp, and their two children, Darlington, Jr., 13, and Elizabeth, 14, reside at 1022 North Fifth Street, Reading.

Attention Readers

We are anxious to secure unusual hunting stories from Pennsylvania nimrods in order to add a touch of local color in the magazine from time to time. If you have had unusual experiences in the field at any time tell us about them. It will encourage others to do likewise.

We can always use good pictures.

Field Notes

"While at a camp recently, in the Bear Meadows section of Centre County, I had the interesting experience in witnessing the near tragedy of a Pileated Woodpecker.

"It was early in the evening of April 15, when Mr. M. L. Banker, Huntingdon, Pa., and I heard a pitiful kind of squawking which seemed to be coming from a nearby stand of timber.

"Arriving at the spot we noticed that the bird was acting as though something had hold of its tail, causing it to claw, twist and beat its wings in an effort to break loose. After a few minutes, but only with great effort, it started to crawl down the tree slowly as though it were held by a strong elastic band. Having only a weak flashlight we couldn't see what was holding it. After crawling about twenty-four inches in this manner, the bird was slowly pulled back to the hole, struggling and squawking all the while. This was repeated four or five times when suddenly it broke free, fluttered to the ground and flew away.

"We followed but were unable to locate it. The next afternoon we examined the tree, noticing another cavity about four feet above the one involved, as well as fresh workings a short space above the second hole.

"Watching the lower cavity for a brief time, we noticed what appeared to be a feather swaying with the breeze. However, our feather turned out to be the head of a blacksnake which apparently had taken refuge in the upper cavity. Evidently the snake had come down to the lower hole and was able to grab Mr. Woodpecker just as it was making an exit.

"Incidentally, the temperature was 12° above zero the night of this episode."—Delbert Batcheler, Division of Public Information.

"On the ninth of November I was out looking for places to set mink and fox traps. I was walking along Montgomery Creek when I saw a mink in the water looking for food. It would go under every root, stump or rock along the creek. It was feeding all the time but it took two or three minutes to work up to me. The animal would cross from one side of the creek to the other and search out every available place. It would cross on a log if available, if not it would swim from side to side, never going more than two feet away from the stream.

"The creature was so intent on hunting it did not see me. I watched it work until it came out of a stump and started to cross the creek not over three feet from me. It then noticed me and ran under some nearby logs. I have seen them in the woods before but have never observed them as long nor have had them come that close."—Game Protector Land Manager Clyde W. Decker, Division "E".

The Massachusetts Audubon Society, 155 Newbury Street, Boston, Massachusetts, presents 12 photographs—one for each month of the year plus one on the cover—by a dozen leading wildlife photographers in the form of a calendar costing $1.15 postpaid.

Gunning Through Blackstone

In the small game season of this rationed autumn, the quest of sport and a more pedestrian search for provender are very handily combined.

That, we suppose, is why not even a shortage of shotgun shells has served to decrease the number of practicing gunners in any great degree. It used to be that they would take the risk of being gored by a pheasant or treed by a wounded quail entirely for sport's sake. This year they beat the adjacent underbrush with a fervor which anticipates meat on the table, and no brown points used.

As the Outdoors Editor has pointed out, the thoughtful hunter is meeting the ammunition shortage by shooting only at birds and rabbits instead of his companions. This is contrary to the custom of other seasons, but no one has any time now to bother with mere trophies. A 185-pound nimrod, mounted in his red coat and in a lifelike pose, looks fine over the mantelpiece, but these are days when we must all be practical.

Trouble in Offing

The trouble with shooting for the pot, however, is that quarrels over who owns a fallen bird when two gunners have let go at it will probably be more bitter this fall than ever before. A trade journal called the *Sporting Goods Dealer* has published an article covering the legal points involved. Having studied it, we suggest that no hunter should so much as pull on a boot until he has contracted for a lawyer to accompany him into the field.

Let us suppose that you have wounded a cock-pheasant. You are pursuing it and are about to bag it—or "reduce it to possession," in the legal phrase—when a stranger steps over a fence and fires a second shot which kills it instantly.

Whose bird is it? Do you settle the argument with the stranger by coarse words or fisticuffs? Do you toss for it, or dress it on the spot?

You do none of those things, if you are a modern sportsman. Instead, you signal to your lawyer, who emerges from the underbrush, whips out the proper legal volume and cites the case of Liesner vs. Wanie (156 Wis. 16), in proof that the pheasant is yours.

The Battle's On

Your opponent thereupon calls his own lawyer down from a tree, and he lodges an objection. The quarry clearly belongs to his client, he submits, citing Buster vs. Newkirk (reported in N. Y., 20 Johnson 75). After an hour of argument, counsel for both sides stipulate that the determining factor will be the mental and physical condition of the pheasant at the time the second shot was fired.

But while they are arguing over whether the creature was about to be "reduced to possession," the owner of the land will turn up with *his* lawyer, who will claim that both disputants are trespassers and that the pheasant really belongs to the landowner. In proof, he will cite Blades vs. Higgs (11 H. L. cas. 621, 3 Eng. Ruling Cases 76). Opposing counsel will both turn on him, citing State vs. Horton (139 N. C. 588) as proof that trespass does not preclude possession.

The landowner's attorney will retaliate with Gratz vs. McKee (270 Fed. 713), James vs. Wood (82 Maine 173) and L. Realty Co. vs. Ole Johnson (92 Minn. 363). Before a decision can be reached, however, a new character strolls up, summons his lawyer from a nearby cornshock, and claims that the bird is his. It was a tame pheasant, he deposes, and, even though it escaped, property rights in the carcass revert to him. His lawyer cites Dietrich vs. Fargo (194 N. Y. 359) and instructs his client to pocket the bag.

The other lawyers block him with Graves vs. Dunlap (87 Wash. 648) and . . .

But there's no point in going on. The gunners by this time have wandered off and each fired at a rabbit. They call the legal staff over in some excitement. Who, they want to know, owns the rabbit?

—CHARLES FISHER, *Phila. Record.*





Photo by Dr. W. E. Simpler

Educational displays frequently constitute a part of sportsmen's programs. Here is one at the Union County Sportsmen's Picnic. The men are District Forester R. B. Winters and Dr. Norman H. Stewart, Bucknell University.



Talk it over fellows and see if you can pry loose any ideas for building up our circulation. You might be interested in knowing that we turned out 22,745 paid subscriptions with the November issue this year, the first time we hit over the 22,000 mark since May, 1941. You all helped establish this fine record for 1943, but we believe it can be beaten in 1944. How about it?

Statistically Speaking

Only three percent of all accidents experienced by persons engaged in sports or recreation are hunting accidents and only two percent are fishing accidents according to statistics compiled by the Travelers Insurance Company. Baseball takes a toll of 11 per cent of all sport and recreation accidents and polo trails the list with 1/12 of one percent.

Following is a chart furnished by the Travelers Company showing comparative accident percentages:

1—Misc.	—
2—Polo	1/12 of 1%
3—Boxing	1/6 of 1%
4—Billiards & Pool	1/3 of 1%
5—Bicycling	1-1/2%
6—Dancing	1-1/2%
7—Football	1-3/4%
8—Athletic Games	2-1/3%
9—Theatres & Churches	2-1/3%
10—FISHING	2-3/4%
11—Bowling	2-3/4%
12—HUNTING	3-1/4%
13—Wrestling	3-1/4%
14—Skating	3-2/3%
15—Basketball	3-3/4%
16—Gymnasium	3-3/4%
17—Outings	4-1/4%
18—Boating	5-1/3%
19—Horseback Riding	6%
20—Winter Sports	7-1/2%
21—Swimming	7-1/2%
22—Tennis & Squash	7-2/3%
23—Golf	8%
24—Country & Woods	8-3/4%
25—Baseball	11%

Investing the Sportsman's Dollar

(Continued from page 4)

facts, entirely devoid of technical terms, so that they may readily be understood:

1. *Balance as of May 31, 1943, $1.775,914.15*—The balance available in the Game Fund, as of May 31, 1943, per the statement which accompanies this article, was the largest amount in the Game Fund at the end of any fiscal year in the Commission's history. This does not mean that the Commission finds it difficult to expend judiciously all the monies paid into the "Game Fund" by the sportsmen. However, as will be seen later in this article, in the interest of good management plans must be made now to meet certain conditions during post-war days, just as virtually all industrial concerns are doing.

2. *Commitments as of May 31, 1943, $169,-753.10*—At the end of any fiscal year there are certain commitments, or obligations, which the Commission contracted for during the year. Money for the payment thereof must be deducted from the fiscal year balance. The commitments as of May 31, 1943 amounted to $169,753.10.

3. *Unallocated and unexpended balances, $458,400*—Under a policy established many years ago, the Commission's budget is based on a conservative license sale, with the understanding that any surplus money accruing to the credit of the "Game Fund" from the sale of licenses in excess of the budget estimate shall not be expended during the year in which collected, but shall be held in reserve until the following year for budgetary purposes. The money so accumulated during the year which ended May 31, 1943, plus unexpended balances, carried over for general operating expenses for the year beginning June 1, 1943 amounted to $458,400. It is much better management, and gives a comptroller a much more comfortable feeling, to have a large part of next year's budget covered by cash in the bank than to base the budget on an anticipated adequate license sales without any cash from the previous year.

The ammunition and travel difficulties during recent months clearly demonstrated how many factors beyond the Commission's control can upset the budgetary apple cart unless extremely good business judgment is used in the planning of expenditures before funds are collected.

4. *Wartime Reserve, $803,750*—As early as June 1, 1941 the Commission felt that a "Special Reserve" should be created for use during the war to compensate for anticipated loss of revenue due to decreased license sales. It is in reality an insurance fund! Furthermore, it is already a foregone conclusion that a considerable part of this money will be required for the first and second post-war years for accumulated capital expenditures (major equipment, building supplies, etc.), over and above that which can be made available for such items from current revenue. From June 1, 1941 to June 1, 1943 this "Reserve" has been increased from $107,200 to $803,750. Of this amount $342,000 is standing to the credit of the earmarked fund (75c from each $2.00 Resident License fee) for the purchase and

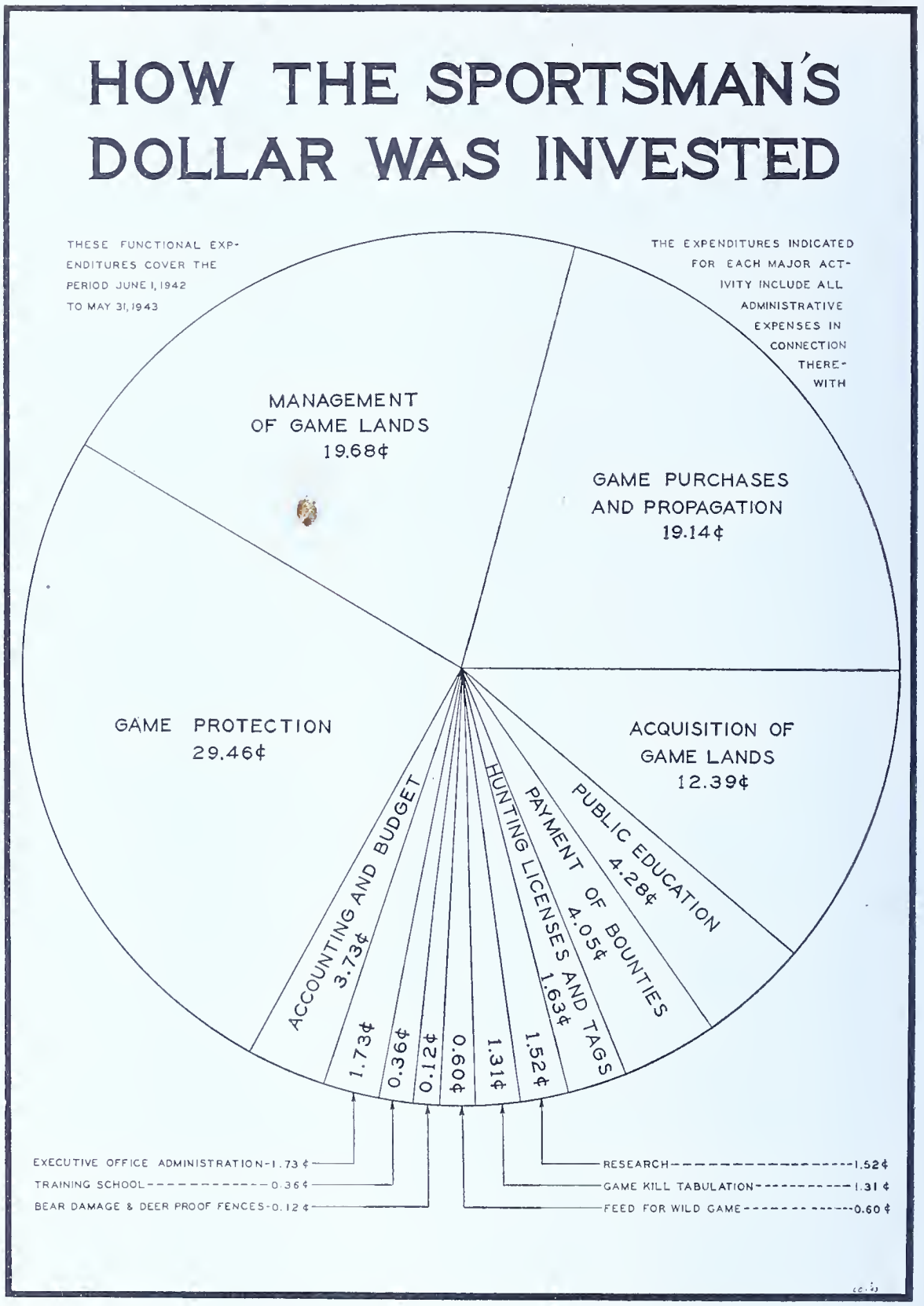


TABLE No. 1
STATEMENT OF INCOME AND EXPENDITURES
December 1, 1919 to May 31, 1943
(23½ Years)

Income	$26,462,904.55	
Total Expenditures	24,686,990.40	
MAJOR FUNCTIONS:		
Protection Expenditures	7,593,097.09	(30.7%)
	68,571.62*	
Land Purchase Expenditures	3,486,698.21	(14.4%)
Land Management Expenditures	4,039,728.80	(16.4%)
Game Farm Expenditures	1,859,645.86	(7.5%)
Game Purchase Expenditures	2,087,800.11	(8.5%)
Bounty Expenditures	2,587,433.69	(10.5%)
	68,571.62*	
Totals for Six Major Functions	$21,654,403.76	(88 %)
All Other Expenditures	2,964,015.02	(12 %)
Grand Total for All Purposes	$24,686,990.40	(100 %)

* Land bought and subsequently sold to Department of Forest and Waters.

TABLE No. 2

SUMMARIZED FUNCTIONAL EXPENDITURES

The expenditures of the Commission during the fiscal year ending May 31, 1943 have been subdivided into major activity groupings as follows:

		Part of Dollar
GAME PROTECTION (Salaries and Expenses incident to Law Enforcement, Game Feeding, Game Distribution, Division offices, Assisting in enforcement of Fish and Forest Laws, and other field activities, but excluding cost for Training School and Feed for Game)	$366,644.10	29.46c
MANAGEMENT OF GAME LANDS (Salaries and Expenses of Refuge Keepers and other employes incident to maintenance and development work on 1,025,319 acres of purchased and leased Game Lands and 1,237 Game Refuges, and fixed charges in lieu of taxes)	244,952.42	19.68c
GAME PURCHASES AND PROPAGATION (Including expenditures for equipment and operating four State Game Farms, and wild game transfer)	238,111.92	19.14c
ACQUISITION OF GAME LANDS (Including title and survey work, mostly capital investment)	154,153.43	12.39c
PUBLIC EDUCATION (Including Game News, Motion Pictures, Exhibits, General Bulletins, etc.)	53,301.70	4.28c
PAYMENT OF BOUNTIES	50,337.89	4.05c
ACCOUNTING AND BUDGET (Including Legal Adveristing, Mailing and Storeroom, issuance of Special Permits, General Printing, etc.)	46,523.05	3.73c
EXECUTIVE OFFICE ADMINISTRATION (Executive Office salaries and expenses, and expenses of Commissioners)	21,506.68	1.73c
HUNTING LICENSES AND TAGS	20,229.38	1.63c
RESEARCH (Salaries and Expenses incident to various Projects dealing with studies of game birds, game animals, furbearers and predators for the Commission's guidance in developing management programs)	18,933.71	1.52c
GAME KILL TABULATION (Including expenses incident thereto)	16,266.51	1.31c
FEED FOR WILD GAME	7,495.07	.60c
TRAINING SCHOOL (Training of Officers)	4,516.96	.36c
BEAR DAMAGE AND DEER-PROOF FENCES	1,456.25	.12c
TOTALS	$1,244,429.07	1.00

TABLE No. 3

ANALYSIS OF GAME FUND BALANCE AT PERIODS INDICATED BELOW

	May 31, 1942		May 31, 1943	
Balance in State Treasury to Credit of "Game Fund"	$1,454,987.78		$1,801,325.91	
Add: Advancement Account for Payment of Bounties	40,000.00		353.50	
	$1,494,987.78		$1,801,679.41	
Less: Expenses Chargeable to this period but paid by State Treasury after May 31	39,530.54		25,765.26	
Funds Available		$1,455,457.24		$1,775,914.15
Less: Amount Reserved from Previous and Current Budget Allocations to cover Commitments for land Purchases, and Other Items Chargeable to Current Fiscal Year	$ 247,081.48		$ 169,753.10	
Less: Amount Allocated and Committed for Budgetary Purposes for Ensuing Fiscal Year	561,897.68	808,979.16	458,400.00	628,153.10
		$ 646,478.08		$1,147,761.05
Less: Wartime Reserve General Operating Fund	300,000.00		461,750.00	
Purchase and Maintenance of Game Lands		300,000.00	342,000.00	803,750.00
Net Operating Balance Available		$ 346,478.08		*$ 344,011.05

* Approximate amount required for Operating Expenses each year after May 31, until revenue from sale of licenses becomes available in the Fall.

maintenance of State Game Lands. With the departmental reserve to fall back on there need be no apprehension concerning adequate funds for normal operating expenses in case of a sharp decline in the license sales, or to catch up on the many major projects which necessarily had to be delayed and also to enable the Commission to take advantage of Federal or State sponsored work projects, if any.

5. *Regular Operating Reserve $344,011.05* —After deducting the amounts referred to under items 2, 3 and 4 from the May 31, 1943 balance of $1,775,914.15, the amount has been reduced to $344,011.05, the "Regular Operating Reserve," which has been carried for many years. It provides a perpetual fund to pay normal operating expenses each year from June 1 to September 30. During this period of the year very little revenue is credited to the "Game Fund."

It is believed that the sportsmen generally will agree that the condition of the fund is sound—never better—and is adequate to meet present and future requirements.

Value of Game Taken

While the sportsmen for many years have come to realize that there is much more to happy days afield than a big bag of game, it is quite timely during these days when it becomes our patriotic duty to make sacrifices to aid the war effort in every possible way, for us to think of the huge game crop in terms of the food value, and the subsequent saving of dollars and the ration points. The table below gives the estimated value of game taken compared with the funds expended during the past two fiscal years:

	1941-42	1942-43
Estimated Value of Game	$5,198,300.00	$5,678,204.00
Estimated Value of Raw Furs	1,175,434.82	1,251,804.44
Total Value of Game and Raw Furs	$6,373,734.82	$6,930,008.44
Expenditures	1,433,415.24	1,244,429.07

In arriving at the above figures we conservatively estimated the value of game at forty cents (40c) per pound. During 1941 the hunters bagged 12,995,750 pounds and 14,195,510 pounds during 1942.

Other Direct Values

The conservation program is not in any sense of the word a selfish enterprise. Numerous other avenues of business and farm home income in Pennsylvania are increased annually by more than thirty millions of dollars. Then there is a part of the program —recreational—that cannot be measured in dollars and cents. In the conflict through which we are now passing, men in industrial plants, as never before, find the great out doors a source of retreat to build and restore energy so badly needed in our all-out production program on the home front.

Another direct value, one that benefits all of our citizens, during peace and also war, is the splendid training our young men receive in the handling of firearms and shifting for themselves in the fields and forests. It is a known fact that the boy who has had hunting experience more readily adapts himself to the part of his

See Table Next Page

(Continued on page 26)

TABLE No. 4
STATEMENT OF REVENUE AND EXPENDITURES—PENNSYLVANIA GAME COMMISSION
FISCAL YEAR JUNE 1, 1942 TO MAY 31, 1943

REVENUE

Balance in State Treasury to credit of "Game Fund" June 1, 1942	$1,454,987.78	
Add: Advancement for the payment of bounties	40,000.00	
	$1,494,987.78	
Less: Unwarranted requisitions chargeable to year ended May 31, 1942	39,530.54	
Funds available June 1, 1942		$1,455,457.24
Receipts during period:		
Net Revenue from Hunters' Licenses	$1,342,996.83	
Game Law Fines	50,441.55	
Special Game Permits	12,968.00	
Interest on Deposits	8,966.05	
Forest Products from Game Lands	14,494.27	
Skins Sold	11,052.66	
Unserviceable Property	5,405.97	
Rentals	1,784.27	
Publications	10,345.97	
Contributions from Federal Government	101,203.70	
Miscellaneous Revenue	5,226.71	
Receipts credited to Game Fund during year		1,564,885.98
Total credits during year, plus balance at June 1, 1942		$3,020,343.22

EXPENDITURES

	Executive Office and Division of Accounting and Budget		Propagation Purchase and Distribution of Game	Game Research	Law Enforcement	Refuges and Lands		Public Information	Total
	General	Bounties				Acquisition	Management		
Salaries	$ 41,209.38	$ 6,980.00	$ 22,699.43	$ 2,511.01	$206,878.95	$ 12,861.37	$ 79,137.04	$14,853.72	$387,130.90
Traveling Expenses of Salaried Employes	1,582.11	17.00	4,909.64	1,113.60	88,878.46	443.70	19,836.72	1,435.27	118,216.50
Deputy Game Protectors:									
Wages $15,686.00									
Expenses 8,802.60	.....	.....	.....	.....	24,488.60	.....	.....	.....	24,488.60
Wages:									
Labor Cutting Fire, Refuge and Boundary Lines, Road Repairs, etc.	.....	.....	.....	.....	.....	.....	51,902.25	.....	51,902.25
Labor at Game Farms, etc.	5,933.48	8.70	48,960.68	4,828.30	14,947.61	1,368.49	.....	1,003.02	77,050.28
Cooperative Farm-Game Program	.....	.....	.....	.....	.....	3,868.39	11,333.06	.....	15,201.45
Purchase of Game	.....	.....	79,239.48	.....	.....	.....	.....	.....	79,239.48
Feed for Game	.....	.....	37,831.32	756.55	7,495.07	.....	16.34	.....	46,099.28
Express and Cartage	37.05	12.07	2,861.12	53.29	197.84	1.63	700.78	206.15	4,069.93
Purchase of State Game Lands (title and survey included)	.....	.....	.....	.....	.....	129,139.85	.....	.....	129,139.85
Fixed Charges in Lieu of Taxes	.....	.....	115.70	.....	.....	.....	34,926.29	.....	35,041.99
Building and Construction	.....	.....	1,427.50	.....	.....	.....	226.85	.....	1,654.35
Repairs to Buildings, Grounds and Equipment by contract	284.70	14.25	292.93	39.96	24.43	.....	606.01	250.22	1,512.50
Training of Officers	.....	.....	.....	.....	2,796.45	.....	1,720.51	.....	4,516.96
Equipment	601.77	.....	999.71	20.00	416.84	155.43	912.59	343.63	3,449.97
Miscellaneous Supplies	1,366.46	212.90	28,098.43	351.65	4,823.43	89.71	11,844.65	1,105.83	47,893.06†
Motor Supplies	359.18	.....	1,952.33	170.01	262.29	293.20	10,630.60	222.95	13,890.56
Light, Power and Fuel	.....	.....	4,099.75	420.10	231.34	.....	253.21	.....	5,004.40
Insurance	591.59	76.15	781.86	76.69	2,243,22	109.19	1,913.24	145.17	5,937.11
Postage, Telephone and Telegraph	7,614.05	791.18	787.58	207.34	10,144.71	111.98	2,995.01	1,069.77	23,721.62
Rentals—Monthly Auto Storage, etc.	105.30	.....	2,245.82	.....	3,181.08	2,730.00	11,851.34	321.98	20,435.52
Bounty Payments and Grants	.....	41,555.50	.....	6,000.00	.....	.....	.....	.....	47,555.50
Refunds of Receipts	126.61	.....	.....	.....	437.75	.....	.....	.....	564.36
Game-Kill Tabulation and Expenses incident to checking lists	16,266.51	.....	.....	.....	.....	.....	.....	.....	16,266.51
Fees:									
Attorneys, Medical, Taxidermy, etc.	785.05	.....	.....	.....	227.79	.....	162.00	2,882.75	4,057.59
Deer Proof Fence, Damage by Bears	1,456.25	.....	.....	.....	.....	.....	.....	.....	1,456.25
Other Maintenance Services and Expenses	373.02	325.37	233.30	1,705.47	3,950.40	47.22	2,728.92	899.24	10,262.94
Newspaper Advertising	4,280.37	.....	.....	.....	10.50	.....	479.43	.....	4,770.30
Printing, Binding and Paper	1,809.76	180.00	41.00	620.90	422.47	2,206.46	627.83	28,211.26	34,119.68
Printing Hunters' Licenses, Tags and Misc. Forms (through Dept. of Revenue)	20,229.38	.....	.....	.....	.....	.....	.....	.....	20,229.38
Administering State Employes' Retirement System (through Dept. of State)	969.85	164.77	534.34	58.84	4,876.39	726.81	1,868.26	350.74	9,550.00
TOTALS	$105,981.87	$50,337.89	$238,111.92	$18,933.71*	$376,935.62	$154,153.43	$246,672.93	$53,301.70	$1,244,429.07
Funds Available May 31, 1943									$1,775,914.15‡

* This item includes $6,000 for Cooperative Research at Pennsylvania State College.

‡ From this Amount must be deducted $1,431,903.10 for the purposes indicated below:

Amount reserved from previous and current budget allocations to cover commitments, mostly for land purchases	$169,753.10	
Amount allocated for budgetary purposes for the year beginning June 1, 1943	458,400.00	
Wartime Reserve (Refer to page 23 this article for details)		
General Operating Fund	$461,750.00	
Purchase and Maintenance of Game Lands	342,000.00	803,750.00
Total deductions		$1,431,903.10

This leaves a net operating balance, (which amount is required for operating expenses each year after May 31 until revenue from sale of licenses becomes available in the Fall) amounting to $ 344,011.05

† Explanation of Miscellaneous Supplies $47,893.06

$28,098.43 Division of Propagation—for equipment and supplies, used in connection with the propagation, purchase and distribution of game; and maintenance and repairs to buildings on the State Game Farms.

$11,844.65 Division of Land Management—for uniform equipment for Land Management Game Protectors; Game Refuge Signs; seed, lime, and fertilizer; materials and tools to operate W.P.A. and D.P.A. projects; and maintenance and repairs at Game Land headquarters.

$4,823.43 Division of Law Enforcement—for uniform equipment for District Game Protectors; ammunition for controlling predators; and office supplies for the seven divisional headquarters.

$3,126.55 for miscellaneous office supplies; films for educational purposes; maintenance and repairs to the Research Station at the Loyalsock State Game Farm.

"QUILLS"

By Helen V. Merritts

A porcupine may not be universally approved of as an ideal animal for a pet, but I have found "Quills," a year old porcupine, an amusing and unusual animal to have around.

She made her appearance in the Wildlife Management office at Penn State last October (1942) in a parrot cage. Dr. L. J. Bennett, Leader of the Cooperative Wildlife Research Unit at the Pennsylvania State College, found her wandering around in an Elk County woods and brought her along back to be mounted as an addition to the wildlife study collection in the museum. Her death sentence was rescinded, though, when a larger porcupine was brought in for the museum skin. From that time on, Quills became an honored guest.

At first her disposition was sour and she was the object of much teasing. Her readiness to flip her tall-quilled tail at her tormentors added to the fun of teasing her. It wasn't long however, until she ignored her tormentors and became relatively tame.

Her favorite food is dog biscuits. These she takes from my hand, and, balancing herself on her tail, she holds them between her paws and munches contentedly. As desert, chocolate drops or cookies are gratefully accepted. Raw carrots help balance her diet. As a special treat one day, one of the boys brought in a hemlock branch. In their native state porcupines prefer hemlock mark to all other kinds. We stuck a branch into her cage and awaited developments. Quills ambled over, sniffed the needles cautiously, then uttered a yip of surprise and promptly began to roll in the needles. She chewed the bark and some of the needles all the while uttering excited little yips. She spent the rest of the day reveling in hemlock.

When she's loose in the office she exhibits a fearless curiosity about everything, especially about things which are out of her reach. She ambles about, crawling under things, poking her nose into boxes, and climbing up on anything which offers a foothold. Her favorite climb is up on the wooden file cabinet which stands beside my desk. Once on top she makes a beeline for the desk, sniffing everything curiously as she passes. She attempts to taste anything which catches her fancy. After satisfying herself that all is in order, and that there is no food on the desk, she descends back over the cabinet and ambles on her way in search of something else.

It didn't take her long to discover that her box of dog biscuits was kept on the second book shelf. After much sniffing she crawls up on the shelf and wrestles with the box until it either falls on the floor or spills; then she scrambles down and steals the spilled biscuits.

Quills is a playful animal. While she is not as quick as a kitten nor as graceful as a squirrel, she is just as amusing to watch. She runs across the floor towards me as fast as she can, her mouth open as though she was going to bite me. When she reaches my feet she turns and scampers away circling and weaving as she goes. She has a queer little "dance" which she does occasionally to amuse herself. It is a queer shuffle in which she bobs and weaves, and then suddenly begins to twirl in a complete circle. She keeps this up for about 5 minutes then the dance ceases as suddenly as it began. If I snap my fingers she will come to me and follow me around if there is a chance for a chocolate drop or biscuit as a reward for obedience.



Her weekly bath



Afternoon tea and biscuits

The only unhappy part of Quills' week is her bathday. She really isn't an untidy animal but her habit of crawling under things leads to a dirty face and stomach usually, and, like any animal, she gets smelly if allowed to go too long without benefit of soap and water. So comes the bath. She objects vociferously and squirms violently but Stan merely tightens his hold on her and I continue with the brush and soap. After a thorough sudsing she is dunked in a tub of luke warm water and rinsed. Heavy gloves protect the hands of the person holding her from her quills. After her bath she sulks, disgusted with the world in general and me in particular. But as soon as she drys out, her grudge is forgotten and she climbs up into my chair to beg.

About three o'clock in the afternoon, Quills begins to feel sleepy. She yawns broadly and exhibits a dwindling interest in both food and exploring. Her object then becomes a quiet, dark, and preferably a high nook in which to snooze. Her favorite spot in the office is on a stick between the wall and the file cabinet. Here unobserved, she'll sleep for hours if undisturbed. When it comes time to put her in her cage for the night, I snap my fingers, rattle the dog biscuit box and wait. Regardless of where she is, she can't resist the delightful rattle of biscuits so she scampers out to me, takes a dog biscuit and crawls into her cage.

So runs the life of Quills, my pet porcupine. Not exactly as cuddly as a puppy, but she compensates by being just as amusing and not nearly so destructive.

Investing the Sportsman's Dollar

(Continued from page 23)



Photo by W. L. R. Drake

Fat scraped from fur-bearing animals is much needed for making explosives. Save it.

basic training that has to do with the handling of firearms than the boy without any hunting experience. It is also obvious that our home front is strengthened because a great number of our citizens have over a period of many years skillfully used firearms of one kind or another.

Capital Investments

The annual published expenditures from time to time include capital investments, such as lands, buildings, major equipment, etc. The actual consideration paid for lands together with the estimated value of the other capital items as of May 31, 1943 aggregate $4,088,775.60, the details of which, excluding obsolete equipment disposed of, appear below:

State Game Lands	$3,486,807.61[1]
Buildings on Game Lands	170,797.00[2]
State Game Farms (including lands, buildings, farm and propagating equipment)	305,363.64[2]
Training School (including buildings and equipment) ..	32,224.97[2]
Current Equipment (including automobiles, trucks, tractors, graders, etc.)	93,528.38[2]
Total	$4,088,755.60

It is just as important for the Commission to maintain these lands, equipment, etc., in order to secure the maximum production or yield of game as it was to originally acquire them. In this phase of operation the Commission is much like that of manufacturers and farmers. Therefore, it follows that the Commission must include in its budget each year from current revenue a certain amount for the maintenance of lands, buildings, etc. For details, refer to Table No. 4.

[1] Consideration paid for lands (including title and survey costs).
[2] Estimated value as of May 31, 1943.

Use of Tables

In this article, as in those previously published, we have made the information available in several varying forms. This should meet the needs of the sportsmen desiring only condensed information and by the same taken satisfy those who desire more detailed information.

Audit of Financial Affairs

Under the provisions of the Administrative Code the Department of the Auditor General is charged with the responsibility of auditing all State Departments, Boards and Commissions and submitting a report thereof to the Governor of Pennsylvania. The Commission's accounts have been audited to May 31, 1943, and appropriate reports filed.

Licenses Issued

Continuing our customary practice, thereby making reference to previously published reports unnecessary, we are giving below the licenses issued by years from the enactment of the Resident License Law in 1913:

Year	Resident	Non-Resident
1913	305,028	No Record
1914	298,972	462
1915	262,355	532
1916	290,422	662
1917	315,474	588
1918	311,290	478
1919	401,130	1,128
1920	432,240	1,725
1921	462,371	1,761
1922	473,735	2,126
1923	497,216	2,328
1924	501,572	2,558
1925	521,855	3,190
1926	520,574	3,468
1927	501,622	4,879
1928	437,727	1,190
1929	505,103	4,823
1930	530,392	6,000
1931	572,779	8,964
1932	537,451	5,251
1933	524,337	4,966
1934	568,666	6,024
1935	606,469	8,460
1936	534,573	7,124
1937	598,261	8,357
1938	654,146	7,584
1939	653,852	9,047
1940	666,420	12,748
1941	675,434	10,922
1942*	640,369	8,391
Total for 30 years	14,801,835	135,736
Average annual license sale for first decade, 1913-1922	355,301	1,051
Average annual license sale for second decade, 1923-1932	512,629	4,265
Average annual license sale for last decade, 1933-1942	612,252	8,362
Average annual license sale for 30-year period	493.394	4,681

* Preliminary report, subject to slight change.

Reprints

This article will be reprinted for general distribution. Readers of the GAME NEWS, may upon request to the Game Commission, Harrisburg, Pa., secure copies for distribution to their friends who are not subscribers.

A Nature Study

(Continued from page 7)

of the game animals do, mindful not only of the needs of the stomach but on the lookout for likely trouble such as lurks about every turn in the woods. Now the deer is no easy target when it comes to a struggle of life or death, but loitering about in the dusk of the same patch of wilderness there may be the bob-tailed feline that hunts for its prey with a cunningness that is of the highest degree of perfection. At any moment a creeping, slinking shadow may spring up, pounce upon the back of a frightened deer and with a dogged, tenacious hold at the victim's neck, lash and tear at the throat till the fleeing animal, exhausted of strength and blood, keels over prostrated in death.

This, and even more, typifies the dramatic realism that exists within the long and broad reaches of Penn's Woods. Here, in the silent recesses of the woodland, where the large and small game and fish and fur-bearers and predators have a lot in common, are the interesting revelations written on the surface of snow; yours to ferret out and to learn about.

Wildlife Conservation—Its Past, Present . . . *(Continued from page 5)*

cut and the land either put into cultivation, or subjected to repeated and thorough burning, the return of the climax type may be considerably delayed. Under these conditions it is preceded by a *succession* of plant communities all of which are temporary in nature. Often the first plants to appear will be mosses, lichens, and more or less "weedy" grasses and herbs. The second stage is marked by an invasion of shrubs and agressive species of trees: blackberries, blueberries, sumachs, fire cherries, and the aspens. This stage, or succession, may persist for some years and it gradually builds up the soil so that seedlings of the permanent forest trees are again able to grow there. As these latter species become established and attain maturity they crowd out the members of the preceding association. During all of these changes in the plant life there will be, of course, changes in the animals inhabiting the area. Most species of animals have definite preferences as to the kind of environment they must live in and the changing *habitat* we have just referred to will result in corresponding changes in animal populations.

There are communities of plants and animals in the water as well as on the land. Every small pool of water, even those of a very temporary nature, is soon inhabited by plants and animals. Within but a few days a rain pool in a meadow may literally teem with living things. There will be large numbers of microscopic plants and animals; diatoms and desmids which provide food for legions of protozoans, rotifers, and crustaceans. Many of them are able to endure long periods of drying and with the return of water they resume their activities, often completing their whole life cycle within a few hours or a few days. These tiny forms of plants and animals of course also exist in permanent water areas as well and their abundance there is absolutely essential to the larger forms of life. They constitute the "bread and butter" of the aquatic insects, the mollusks, and of the turtles, frogs, and fishes. In the open water, particularly close to the surface, there is a large-free-swimming community of plants and animals which are referred to as the *plankton.* For the most part these are of microscopic size. The vegetation surrounding the deeper portion of the pond appears in zones in the following order from the land: (1) A zone of aquatic or marsh shrubs such as red-osier, willows, poison sumach, buttonbush, etc.; (2) A zone of wading-plants which are rooted in shallow water such as the cattails, bur reeds, pickerel weed, swamp loosestrife, etc.; (3) A zone of plants rooted to the bottom but with leaves emergent or floating on the surface such as the waterlily, spatterdock, water shield, and some of the pond-weeds; and (4) a zone of submerged aquatic plants which are rooted to the bottom or free-floating such as the water-weed (Elodea), coon-tail, water celery (Vallisneria), and certain pond-weeds. Each of these plant associations provides a suitable habitat for certain species of animals.



Young Beaver

Photo by W. L. R. Drake

VIII. Wildlife Habitats and Their Importance

The kind of place, or type of territory, in which an animal lives is what is known as the animal's *habitat.* Each and every animal lives in a particular habitat because that environment meets its requirements for living. Animals vary widely in respect to these requirements and consequently many different habitats are chosen by the various kinds of animals. What may be ideal habitat for some species will be entirely unsuitable for many others. For instance, wide expanses of open, grassy fields or meadows will satisfy all of the requirements of meadowlarks, grasshopper sparrows, and bobolinks but they will most certainly not meet the habitat requirements of such forest and woodland species as the wood thrush, scarlet tanager, and red-eyed vireo. In respect to the choice of habitat some species are much more exacting than are others. Many birds which originally lived in the forests have adapted themselves to changes brought about by man and they have found new habitats in groves of shade trees, in orchards, or even about his home grounds and buildings. Such birds as the robin, house wren, catbird, phoebe, barn swallow, chimney swift, and the crow have not only been able to thrive but even increase in numbers as a result of adaptation to the new environment. On the other hand there are some other species which apparently have not been able to adapt themselves to changing conditions and they have largely disappeared with the recession of the wilderness.

Changes which take place in the environment, thus altering the habitats of wildlife, are soon reflected by changes in animal populations. A cultivated field, once abandoned, soon grows up with "weedy" plants and grasses and becomes excellent habitat for a number of birds and mammals such as moles, meadow mice, woodchucks, meadowlarks, and vesper sparrows. Within the course of a few years, if left undisturbed, this same field will be invaded by many different kinds of shrubby plants and in due time it will become a veritable thicket of hawthorns, sumachs, blackberries, blueberries, witch hazel, and other shrubs. When it reaches this thicket stage it will no longer be suitable habitat for many of the field species but it will be discovered and populated by other species which prefer thickets as living quarters. It will become acceptable habitat for cottontails, quail, towhees, chats, and field sparrow. At a later period trees such as aspens, fire cherry, birches, maples, and ashes will come in and oaks and hickories may put in their appearance. As these trees grow they will gradually crowd out the members of the shrub association and we may have a fairly dense stand of saplings with little or no underbrush. This will, of course, alter the environment again and have a marked effect upon the wildlife population. Birds whose habitat is dense foliage, those which make their nest and seek their food primarily in the crowns of trees, will be the principle residents; the red-eyed vireo, redstart, scarlet tanager, and yellow-billed cuckoo being outstanding examples.

As a rule a dense, thrifty stand of nearly even-aged young trees offers little inducement to wildlife. Very few species select this type of habitat largely because of the limited amount of food which is available. It offers an inducement only to a small number of birds which feed upon insects found among the foliage of the trees themselves. As the timber stand matures and reaches the "old-age" stage, when openings appear due to the falling or toppling of occasional trees, and snags and stumps become numerous, there will be a considerably larger and more varied wildlife population. Chickadees, nuthatches, and woodpeckers will find the decaying trunks and dead limbs ideal foraging grounds as well as perfect loca-

(Continued on page 31)

Food For Thought—and Wildlife

(Continued from page 8)

species having a high palatability rating. In these studies, health observations and daily measurements of food consumed, food wasted, and body weights of the birds were made.

The first year's work determined the comparative palatability of 25 species of seeds with the bobwhite quail and 6 with the pheasant. The birds were confined to outdoor pens and were fully exposed to winter weather conditions. All the various foods were available to them at all times, and the amounts utilized were recorded day by day.

Of the seeds tested with the bobwhite quail, four seemed to possess particular value (excluding Korean lespedeza, a well-known quail food, which was used as a check). These were Early Shrub Lespedeza *(Lespedeza cyrtobotrya)*, Common Witchgrass *(Panicum capillare)*, Wolth's Ryegrass *(Lolium multiflorum woldicum)*,* and Reed Canary Grass *(Phalaris arundinacea)*. In addition, there were 10 species with indeterminate results and 10 that were apparently unpalatable.

Of the 6 species tested with the pheasants, four showed promise of value. These were: Early Shrub Lespedeza, Wolth's Ryegrass, Common Witchgrass, and Reed Canary Grass. In addition, one other species gave indeterminate results, and one was undesirable.

The second year's tests were designed to make a nutritional evaluation of those species which showed promise in the first year's palatability test. Those that gave indeterminate results the first year were repeated in an attempt to gain a clear indication of their "palatability rating". Further, 30 additional species were tested for palatability rating with the pheasants and 20 additional species with the quail. Because of lack of seed, the one species, Downy Milk Pea *(Galactia volubilis)*, that gave indeterminate results with the pheasant was not repeated.

After completing the two years of tests, a palatability rating was given to each seed species, either as "good", "fair", or "no good". Those that were rated "no good" were considered as completed insofar as these tests were concerned, although this would not imply that they could not be utilized in a planting or seeding program. Some of them may still be worth using if only from the standpoint of their erosion control and wildlife shelter values. Of the total of 45 species tested with the bobwhite quail, 29 were rated as "no good", 7 as "fair" and 9 as "good". Of the 9 "good" species, two were check species, namely, Partridge Pea and Korean Lespedeza (scratch grain was also used as a check); thus, there were actually seven of the seed species under test that showed real promise for use by quail. These were Shrub Lespedeza *(L. bicolor)*, Roundhead Lespedeza *(L. capitata)*, Early Shrub Lespedeza, Common Witchgrass, Proso *(Panicum miliaceum)*, Reed Canary Grass and Foxtail Millet *(Setaria italica)*. The two panicums and the setaria are annual species which limits their possible usefulness. Of the three lespedezas, two are woody plants.

Of the total of 36 species tested with the ring-neck pheasant, 22 were given a palatability rating of "no good"; three were rated "fair" and 11 were given a "good" rating. Among these 11 were four annuals, namely, Common Witchgrass, Proso, Foxtail Millet, and Wolth's Ryegrass. Their possible usefulness for field border seeding species is thus limited since they are not perennials. Two of the others, the two shrub lespedezas, are woody plants. The other five that showed promise were: Perennial Ryegrass, *(Lolium perenne)*, Switchgrass *(Panicum virgatum)*, Reed Canary Grass, Wild Bean *(Phaseolus radiatus)*, and Trailing Wildbean *(Strophostyles helvola)*.

Nutritional tests were conducted during the winter of 1942 with those species that showed most promise the previous year. Shrub Lespedeza, Early Shrub Lespedeza, Wolth's Ryegrass, and Reed Canary Grass were tested with both pheasants and quail. In addition, Common Witchgrass was tested with quail. The usual scratch gain diet was used as a check with both species.

It will be noted that Shrub Lespedeza was used even though it had not been included in the first year's palatability experiments. This was due to its close affinity to the Early Shrub Lespedeza and the desire to make a comparison of the food utility of the two. Wolth's Ryegrass was also checked with quail as well as with pheasants even though its initial test with quail had been indeterminate.

In conducting the nutritional checks, five birds of each species were used in testing each kind of seed. Each experiment was run for a two weeks period and then the entire lot was repeated with another group of birds for another two weeks. Each group of birds was fed only one kind of seed. An





Field edges that are unproductive of farm crops may well be seeded to make a "wildlife border." These pictures show the border at seeding time and three years later. The half to the woods is devoted to short Lespedezas while that on the field side is seeded to perennial legume, in this case Sericea Lespedeza.

* Common Ryegrass, which is a mixture of *Lolium multiflorum* and *L. perenne*, gave the same results, but is not counted here as a separate species.

extra pen of birds living on their regular scratch grain food was maintained each time as a check. Food consumed and wasted, individual body weights, as well as notes on health conditions were recorded each day.

Of the five species tested with bobwhite quail, none was nearly as satisfactory as scratch grain in maintaining the bird's weight and health. The average daily consumption per bird of scratch grain was about 13 to 14 grams. With Common Witchgrass the consumption was 10 to 11 grams per bird day; Early Shrub Lespedeza 9½ to 11½ grams per bird day; Wolth's Ryegrass 9½ grams per bird day; Shrub Lespedeza 7 to 11 grams per bird day; and Reed Canary Grass 7½ to 10 grams per bird day. Very little food was wasted in any instance with the exception of the first run of Shrub Lespedeza when there was considerable waste.

The weight losses with scratch grain, which may be considered the normal winter and handling loss for the period, were 5% and 2½% in the two runs. The nearest approach to this normal loss was that experienced with Early Shrub Lespedeza which showed a weight loss of 14% and 6% respectively in the two tests. It should be noted, however, that these weight losses apparently were not serious since no bird died during the experiment or after being returned to normal foods. Second best results were obtained with Shrub Lespedeza where the weight losses were 26% in the first trial and 12% in the second. Two birds died during this test and four others—three in the first and one in the second—died within 33 days after the completion of the work.

The weight loss of quail fed on Common Witchgrass was 21% in the first experiment and 7% in the second. However, the second test was completed in seven days because of a lack of seed and, hence, must be discounted. While the 21% weight loss was less than that experienced with the Shrub Lespedeza, the after effects appeared to be more serious since six birds died within 30 days after the trial, three of these within 13 days. The results with Wolth's Ryegrass showed a weight loss of 17% and 25%, respectively, in the two runs, with two birds dying during the work and three more dying within the next 35 days. With Reed Canary Grass the weight loss was 32% and 19%, respectively. Of these birds, one died during the experiment, three more in 15 days, and an additional two more in 47 days.

Summarizing the results obtained with these five species, it would seem that only one of them, Early Shrub Lespedeza may be considered as having a high rating from the standpoint of nutritional value to quail. At this point it may be well to note that, since these trials were run with a single species of seed as the entire diet, the effects on the birds might be more serious than would be experienced under wild conditions where a more varied diet would be available. Thus, we may take a conservative viewpoint of the losses experienced.

The results of the nutritional tests with pheasants were more nearly uniform than those with quail. The best record was obtained with Reed Canary Grass where the weight loss was actually less than that experienced with scratch grain. The birds lost 5% and 1%, respectively, in the two trials with Reed Canary Grass compared with 5% and 6% with scratch grain. The consumption of food, likewise, was high, averaging 35½ and 50 grams per bird days respectively, as compared to 34 and 28 grams per bird day of scratch grain. No birds on the Reed Canary Grass diet died either during or following the experiment. Next best was Wolth's Ryegrass of which the birds consumed 31 and 26 grams per bird day, respectively, with resulting weight losses of 6% and 11%. In this group, one bird died 37 days after the test was completed. Third best results were obtained with Shrub Lespedeza with an average consumption of 20 grams per bird day in the first run and 18 in the second. Weight losses were 10% and 8%, respectively, with no birds dying during or following the experiment. The consumption of Early Shrub Lespedeza was 23 and 16 grams per bird day, with a resulting weight loss of 8% and 12% in the two runs. Here again, no birds died during the test or later.

From the results of testing these four species with pheasants, it seems that all four are satisfactory in maintaining health and weight and thus may be considered useful for pheasant food.

It had been intended that these experiments would continue for one or more additional years until the other promising species could be evaluated, and other varieties could be added as needed. However, the advent of war has made it impossible to carry on. Hence, this article must be considered in the nature of a progress report. It is hoped the experiments will be resumed sometime within the next few years. In the interim, the use of Early Shrub Lespedeza for quail, and the use of both Shrub Lespedezas, Reed Canary Grass, and Wolth's Ryegress for pheasants is worthy of particular encouragement. Further, since Wolth's Ryegrass is an annual species and since the initial test with Perennial Ryegrass showed promise with pheasants, the use of Perennial Ryegrass also warrants encouragement along with the others.

Table summarizing the palatability ratings obtained with both Quail and Pheasant for the other species that were not included in the nutritional tests

Species	*Palatability Rating* *Quail*	*Pheasant*
Crested Wheatgrass (Agropyron cristatum)	No good	Fair (N)
Meadow Foxtail (Alopecurus pratensis)	No good	#
Kidneyvetch Anthyllis (Anthyllis vulneraria)	Fair (N)	No good
Tall Oatgrass (Arrenatherum elatius)	No good	#
Cicer Milkvetch (Astragalus cicer)	No good	No good
Sickle Milkvetch (Astragalus falcatus)	No good	No good
Field Brome (Bromus arvensis)	No good	#
Wild Senna (Cassia marilandica)	No good	#
Coastal Butterflypea (Centrosema virginianum)	No good	No good
Showy Partridgepea (Chamaechrista fasciculata)*	Good	
Sensitive Partridgepea (Chamaechrista nictitans)	No good	No good
Crownvetch Coronilla (Coronilla varia)	No good	No good
Orchardgrass (Dactylis glomerata)	No good	#
Canada Wildrye (Elymus canadensis)	No good	#
Downy Milkpea (Galactia volubilis)	No good	No good
Perennial Peavine (Lathyrus latifolius)	No good	No good
Roundhead Lespedeza (Lespedeza capitata)	Good (N)	No good
Hairy Lespedeza (Lespedeza hirta)	Fair (N)	No good
Wand Lespedeza (Lespedeza intermedia)	Fair (N)	No good
Rush Lespedeza (Lespedeza juncea)	Fair (N)	No good
Decumbent Lespedeza (Lespedeza latissima)	No good	#
Trailing Lespedeza (Lespedeza procumbens)	No good	No good
Chinese Lespedeza (Lespedeza sericea)	No good	No good
Korean Lespedeza (Lespedeza stipulacea)*	Good*	
Thunberg Lespedeza (Lespedeza thunbergii)	Fair (N)	Fair (N)
Slender Lespedeza (Lespedeza virginica)	No good	No good
Perennial Ryegrass (Lolium perenne)	No good	Good (N)
Birdsfoot Deervetch (Lotus corniculatus)	Fair (N)	No good
Sundial Lupine (Lupinus perennis)	No good	No good
White Sweetclover (Melilotus alba)	No good	No good
Common Sainfoin (Onobrychis sativa)	No good	No good
Proso (Panicum miliaceum) (A)	Good	Good (N)
Switchgrass (Panicum virgatum)	No good	Good (N)
Wild Bean (Phaseolus radiatus)	No good	Good
Small Burnet (Sanguisorba minor)	No good	No good
Foxtail Millet (Setaria italica) (A)	Good (N)	Good (N)
Trailing Wildbean (Strophostyles helvola)	No good	Good (N)
Pink Wildbean (Strophostyles umbellata)	No good	Fair (N)
American Vetch (Vicia americana)	No good	No good
Fourseed Vetch (Vicia tetrasperma)	Fair (N)	No good

* Used as checks only
(A) Annual, hence possible usefulness is limited
Not checked since chance of success too remote
(N) Should be further tested in a nutrition study

The Grand National Grouse Championship

(Continued from page 9)

sylvania Game Commission certainly left no stone unturned in their effort to cooperate with the newly formed club. Aside from the two kingpins previously mentioned, we noted Harold Moltz, Game Commissioner for the Jersey Shore section, Seth Gordon, executive director of the State Game Commission; W. C. Ryder, Travelling Game Technician; William Drake, official photographer for Pennsylvania Game News; Robert Sinsabaugh and Chester S. Siegel, Game Protectors and tireless workers throughout the entire running; Thomas Bell, Division Supervisor; John Langenbach, Game Land Technician; Mark Hagenbach and Jack Brion also District Game Protectors, and Carl Bidelspacher, fish warden. It was a pleasure to associate with such congenial and cooperative representatives of the various departments of the Pennsylvania Game Commission.

We had heard of the Black Forest of Pennsylvania and admit that we had many conflicting illusions about it until this trek. 'Twas said this locale was selected as being centrally located for the three different sections of the country interested. Be that as it may, we wish to stress at the outset that the nine one-hour courses utilized provided an excellent opportunity to show a dog to advantage with a reasonable amount of birds, but the pendulum has swung to the wrong side with a dearth of grouse being found, not only during these trials but reports from veteran upland game hunters seem to run in one vein. Some maintain that the grouse cycle is at its lowest level.

This being the first trial over this newly plotted terrain, it seems advisable to locate it geographically to alleviate the many anxious hours that a newcomer might live through in getting here. The courses are located in a huge state-owned tract of cut-over timber land that has grown up with thick beech, maple, an occasional larch and sundry other types of second growth that comprise the typical home of the king of the game birds. Located high in the Allegheny mountains, there were several ways to get to the Black Forest Inn with the axiom of the longest way round being the shortest way home being the best route to follow. The New England contingent came via Bear Mountain bridge across the Hudson River, then west on U. S. route 6 to Wellsboro, Pa., where luckily some of the natives were questioned as to the best way into the Black Forest region. Lee White wasn't fortunate in getting tipped off and followed the directions given by Charlie Elder, coming over the much talked about Slate Run route. To be sure, it was quite a bit shorter than going to either Jersey Shore or Galeton, then pick up Route 44 right up the mountain ridge to the headquarters. But the very vivid descriptions and many narrow escapes of the Slate Run road would discourage even the most seasoned driver. Cut along the sheer side of the mountain, the road is only wide enough for one car with about a foot of terra firma separating the tire of the car from the abrupt edge where one could look down three to four hundred feet with not even a handrail separating the road from the long drop. It seems that this route is sparsely travelled in good weather, let alone a rainy and snowy day when the clay top surface becomes churned into a gooey mess. Many anxious moments were lived through until all the stragglers had checked in. Lee White maintained that Charlie Elder had planned to eliminate all the New England dogs by having them come in through Slate Run. All kidding aside, this locale is one of Pennsylvania's beauty spots, it being the site of the Pennsylvania Grand Canyon where sightseers from all sections of the country come to view Nature's handiwork.

The Black Forest Inn served as headquarters, located approximately 2500 feet above sea level on the plateau where the mountain range levels off for nearly sixty miles north and south and anywhere from ten to twenty miles wide. The Inn is located on the Coudersport turnpike, that runs the length of the mountain range. Historians claim it was originally laid out in the early 1800s to carry powder and ammunition from Jersey Shore to Lake Erie. The Inn was originally the Black Forest Club, owned by sportsmen from Williamsport. Mr. and Mrs. C. A. Bonner leased these ideal holdings and have been catering to hunting and fishing parties. The cheery, blazing fireplaces, warm beds and excellent food made one forget his many worries and just relax. Isolated as it is, one doesn't see a newspaper or hear any of the constant war propaganda that floods the ether waves. In spite of the many delays caused by the rains, not once did one hear any grumbling or complaining. Curwin Bonner, Mrs. Mary Bonner, George Will, Miss Sophie Calosena and Mrs. Ruth Will spent many busy hours in catering to the fancies of these hungry men. The overflow went to Pat Reeder's where many an amusing evening was spent. Mr. and Mrs. Reeder were interested spectators during various phases of the running.

The Pennsylvania Game Commission and Commission of Lands and Forest have done a grand job in controlling and maintaining this area so today it ranks tops when one recalls the plethora of deer, bear, beaver and wild turkey that roam these mountains. Many accounts in regard to the deer population of this region have reached your scribe's ears, but I must confess that I was thoroughly convinced once I arrived. Just checking the actual deer seen in front of the headlight while travelling through the night we counted 26 in less than ten minutes. The State has taken steps to protect this area by setting aside refuges; one of 2800 acres parallels course nine. Another extensive tract has been set aside strictly as a dog training area from which hunters are barred. A second series was run here on Sunday morning, there being several well-marked courses where one would most likely find grouse if conditions were right.

Coming from the tight coverts of New England, one is taken quite aback when he sees this venue. Instead of the dense ground cover and many fencelines and stonewalls, there are acres upon acres of big sprout land, having little or no ground cover to make a bird lay for the pointing dog, but there are several spots where the course opens out of the sprout country to encompass go-back land that has grown up into goldenrod and knee-high grass with a scattering of poplar, beech and larch trees dotting the terrain. Every course was clearly marked with white paint blazes and identification signs and had been brushed out by running a small bulldozer over all the trails. During the extensive logging of the virgin timber from these mountains, miles upon miles of narrow-gauge railroad grades fanned out throughout the Black Forest with these same grades making ideal footing for the horses and handlers. The grounds for the most part followed these grades and old logging roads with an occasional detour to connect one trail with the other. Surprisingly enough, a grouse dog in this area could really step out in spots, yet he still had to come into handle in the tighter spots. All in all, the consensus seemed to be in favor of the well-laid out trails provided there were more birds. Four braces went birdless during the open-half hour heats with the tally for the whole thirteen braces showing something like 41 grouse and one woodcock being moved, which



Photo American Field

Some of the dogs, handlers, officials and a portion of the gallery

Wildlife Conservation—Its Past, Present . . . *(Continued from page 27)*

tions for nesting holes. Squirrels, raccoons, and wood ducks will find suitable den and nesting sites. Grouse and wild turkeys will find berry-producing shrubs in the sunny openings. Thus we have seen that with each succeeding stage in the development of the vegtation the environment changed and that some kinds of birds and mammals found suitable habitat conditions during each stage. We must not think that these stages are sharply defined, there is a gradual transition from one to another, and there is a corresponding gradual transition in the animal life as well.

The presence, or the absence, of any species of bird or animal is very largely a matter of the presence, or absence, of the right kind of habitat. Woodcock cannot live out in the middle of a dry field and quail can't live in the middle of an extensive pine forest. House wrens may nest in a box placed in a shade tree in the back yard but long-billed marsh wrens must have wet areas covered with marsh and a growth of swamp shrubs. Nighthawks often do nest on the pebble-covered flat roof tops of city buildings but their close relatives the whip-poor-wills must have tracts of woodlands where they can make their nest on the ground among dead leaves and clumps of ferns The cottontail rabbit and the bob-white quail thrive where man cultivates his crops provided he leaves a little cover but the varying hare and the ruffed grouse must have wilder wooded areas in order to exist. Muskrats must have marsh or other water areas with sufficient food and cover provided by cattails, sedges, and other aquatic plants. Beavers will build their dams and establish themselves along streams provided there are convenient growths of alders and aspens to furnish food and building material. It is quite evident that any animal chooses a habitat which will provide it with the desired kind of home site, an adequate supply of food, and with proper cover to serve as protection from both the elements and its natural enemies.

Any program intended to benefit wildlife must give due consideration to the importance of wildlife habitats. Very often the success, or the failure, of a wildlife restoration project is just a matter of how much attention is paid to the habitat requirements of the species under consideration. We cannot expect to have wildlife without having the right kind of wildlife habitat or expect to get very far along with wildlife restoration unless we first restore the wildlife habitats. Marshes must be provided for wild ducks, rails, gallinules, and muskrats. Thickets and briar patches in proximity to cultivated fields are essential for rabbits, pheasants, and quail. Growths of trees and shrubs along the streams provide better habitat for fish life by keeping the waters cooler and attracting numerous insects upon which the fish may feed. Given the proper habitat—an abundance of food and cover—and adequate protection particularly from human influences, most species of wildlife will prosper and their numbers will increase up to the maximum number that it is possible for a given area to support.

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isn't bad in these lean years. It was discouraging during the third series when Communique and Skyrocket's Flashlight only started four birds in 2 hours and 40 minutes.

No one will ever know the amount of work Erik A. Thomee put into the initial venture then to suffer the painful misfortune of fracturing his leg so he couldn't be on hand to view the smooth-working organization that he was instrumental in gathering together. The selection of the trophies, judges' pins and winner's award reflected good taste and these outstanding mementos will surely be treasured by the recipients. Lee White stepped in to pinch hit, performing in his usual efficient and thorough way. President Hadaway appointed Sam Light as Stake Manager to carry on in Mr. Thomee's absence and a wise selection it proved to be. Everybody agreed that Sam Light came through with flying colors as he met and settled every issue at its point of origin. He followed the running closely and never lost enthusiasm.

Aside from Mr. Light, who had three dogs in this stake, there were many other owners on hand to see their charges go through their paces. John M. Hadaway, president of the club, came on from Michigan; Jim Bryne had the distinction of coming the farthest, travelling all the way from Damariscotta, Me., Dr. W. H. Beard and Ed Harnish made the trek from Boston, Mass.; all told, out of the 26 dogs entered, 18 owners were in attendance.

The selection of the judicial panel proved to be a natural as Frank D. Fair, Sharon, Pa., Dr. James S. Goodwin, Concord, Mass. and Dewey G. Hutchison, Midland, Mich., worked hand in glove together. It will be a long time before three keener men can be rounded up for such an important event and have them work the issue through to such a satisfactory conclusion. All three caught every bit of action and were quick in gaining a true analysis of same. The decision was popular though many failed to see just what did happen in the split second when the decisive point of the winner climaxed a long uphill fight. All three men are well acquainted with the habits of the wary grouse.

The Winner and Others

The entry of 22 setters and 4 pointers clearly indicated that the stake had caught on. The quality ranked high from standpoint of individual performances, but due to the scarcity of birds one wouldn't want to go on record as saying that action aplenty transpired.

SUMMARY

Caviar, With

Granite State Highpower, white and orange pointer dog, by Lexington Jake—Country Lass. Eugene F. Clark, owner; Wayne M. Colby, handler.

Communique, white, black and ticked setter dog, by Little Jim—Roy Kelley's Midget. John M. Hadaway, owner; William P. Smith, handler. With

Young Princeton, white, black, tan and ticked setter dog, by Princeton—Margaret Called Peggy. James L. Bryne, owner; Mike Seminatore, handler.

Hall's Black Rocket, black, white, tan and ticked setter dog, by Sam L's Skyrocket—Gay Sanoka. A. A. Hall, owner; Gene Galloway, handler. With

Bucky B., white, black and ticked setter dog, by Spanker B.—Barb. Dr. W. H. Beard, owner and handler.

Skyrocket's Flashlight, white, orange and ticked setter dog, by Sam L's Skyrocket—Citabluegym Sue. J. Nelson Leggett, owner and handler. With

Spanker B., white, black, tan and ticked setter dog, by Pepper Martin—Patricia B. Dr. W. H. Beard, owner and handler.

Chief General, white and orange setter dog, by Chief Inspector—Chicora Delight. W. Lee White, owner; Mike Seminatore, handler. With

Skybuster, white, black, tan and ticked setter dog, by Sam L's Skyrocket—Ralph's Peerless Starlight. Sam Light, owner; Larry Tuttle, handler.

Glendale Skeet, white and orange setter dog, by Glendale Toby—Pal's Grouse Queen. Harry R. Hyde, owner; J. P. Steis, handler. With

Sam L's Skygo, white, black, tan and ticked setter dog, by Sam L's Skyrocket—Gym's Lady. Sam Light, owner; Larry Tuttle, handler.

Dotty Rodfield, white, orange and ticked setter bitch, by Ghost's Rodfield's Lad—Bonnie Foi. F. G. Kerry, owner; William P. Smith, handler. With

Audubon B., white, black, tan and ticked setter dog, by Sam L's Skyrocket—Citabluegym Sue. W. J. McCracken, owner and handler.

Commander In Chief, white, black and ticked setter dog, by Chief Inspector—Phantom Spooky Maid. Edward W. Harnish, owner; Wayne M. Colby, handler. With

Prince Rod's Mack, white, black, tan and ticked setter dog, by Sam L's Skyrocket—Lady Diana Boaz. Harold J. Boulton, owner; Gene Gallaway, handler.

Laetus Jack, white, black, tan and ticked setter dog, by Audubon B.—Betty Brunette. Sam Mannarino, owner; W. J. McCracken, handler. With

Kaywoodie, white setter dog, by Colonel Grouse—De Caine's Gloria. C. K. Stroup, owner; William P. Smith, handler.

Kitty's Major White, white, black and ticked setter dog, by Lehigh Captain—Kitty B. Gay. J. C. Williams, owner and handler. With

Granite State Highboy, white and liver pointer dog, by Lexington Jake—Country Lass. Walter C. Blaney, owner; Wayne M. Colby, handler.

Glendale Hubbell, white, black, tan and ticked setter dog, by Glendale Teddy—Taft's Betty. Harry R. Hyde, owner; J. P. Steis, handler. With

Skybandit, white, black and ticked setter dog, by Sam L's Skyrocket—Citabluegym Sue. George E. Sinclair, owner; Gene Gallaway, handler.

Joe Contender, white and liver pointer dog, by Lexington Jake—Lexington Tess. Porter Thompson, owner; Mike Seminatore, handler. With

Valley's Nugym Ghost, white, black and ticked setter dog, by Patsy's Major—Lightfoot Lady Gladstone. J. M. Hadaway, owner; William P. Smith, handler.

Sam L's Flora, white, black and ticked setter bitch, by Gym—Vogan's Oncahye. Sam Light, owner; Larry Tuttle, handler. With

Chicora Delight, white, black, tan and ticked setter bitch, by Chicora Citation—Lassie Porter. Mike Seminatore, owner and handler.

WINNER—CAVIAR, 267182, pointer dog, by Wautamga Joe—Gi Gi. C. R. Barton and J. S. Applegate, owners; John S. Applegate, handler.

RECORD OF GAME KILLED ON HIGHWAYS OF SIX NORTHWESTERN COUNTIES SINCE 1941

	CRAWFORD			ERIE			FOREST			MERCER			VENANGO			WARREN		
	1943 Oct. 31	1942 Oct. 31	1941 Oct. 31	1943 Oct. 31	1942 Oct. 31	1941 Oct. 31	1943 Oct. 31	1942 Oct. 31	1941 Oct. 31	1943 Sept. 30	1942 Sept. 30	1941 Sept. 30	1943 Oct. 31	1942 Oct. 31	1941 Oct. 31	1943 Sept. 30	1942 Sept. 30	1941 Sept. 30
Rabbits	2,021	2,793	3,120	428	572	484	53	44	89	1,657	2,080	1,603	1,387	1,680	1,315	607	769	791
Ringnecks	6	42	37	14	26	14	----	----	----	92	44	59	5	11	5	13	18	51
Grouse	1	2	----	----	----	----	----	----	----	1	4	6	20	20	20	2	2	----
Squirrels	15	33	29	----	----	17	7	8	6	78	----	59	28	42	172	12	7	23
Opossum	155	116	70	38	39	25	22	13	5	304	161	70	173	154	40	49	36	15
Skunks	231	370	389	219	324	219	17	23	23	350	304	323	160	263	172	158	147	191

Compiled and submitted by S. W. Jackson, District Engineer, District 1-0, Department of Highways, Franklin, Pa.

COURTING LUCK

By Gilbert S. Watts

SEVERAL Falls ago my companion and I back-packed into a remote area for our deer hunt. The country was decidedly inaccessible at the time, rough in topography, and forested mostly with second-growth hardwood timber. We cherished the region for its rugged loveliness and because we had never met another hunter there. But deer turned out to be surprisingly scarce in this isolated area although, strange as it may seem, they actually were far more numerous that Fall on accessible regularly hunted lands within a mile or two of the road, places where they never had become exceedingly plentiful, the browse had not been damaged, and where the percentage of survival was excellent.

On the morning of our third day in the back country, not having had a shot thus far, partly on account of the scarcity of the deer, but more because of the very noisy footing, we worked along a ridge to a favorite flat, formed by several flanking ridges joining like fingers to the hand. There the indisputable evidence of freshly rubbed saplings indicated a buck or two in the vicinity. But we failed by neglecting to maintain court to Lady Luck who makes tryst at the most unexpected times and places. Perhaps miffed by our failure to notice, her reward was withheld from us. Indeed any man should have known that a lady may dispense little of charm or favor unless attended in spirit of flattery and anticipation.

It is true we had some reason to be discouraged, to think it utterly impossible to walk up and shoot a deer. Had we not endeavored in all earnestness for more than two days, straining all in trying to move noiselessly through omnipresent, ankle-deep, tinder-dry, rustling, rattling, fallen leaves? But that was no proper excuse for blundering blindly along with never a thought of timid buck or temperamental Miss Luck.

So we marched, not too attentively, separated as far as might be and sighting one another occasionally, fancifully hoping that either might jump a buck to run across the front and be shot by the other. But it seemed every deer must surely hear the approach and sneak away just beyond our view. Then the kill was made by a lone hunter, the first we had ever met there, and forerunner of hordes to follow later over roads with which the country soon was blasphemously rent.

This hunter appeared directly in front, serious and purposeful. He nodded and passed midway between us. A second later I was rocked by ear-wracking concussions, uncomfortably close behind, and wheeling about saw a fine buck stumble and fall, the strange hunter rush to his kill as close as a woodcock may be dropped.

Investigation revealed that the deer had skulked in his bed, probably too surprised to risk moving until almost stepped upon, and that he had been fairly within my view as he lay there. Thus I learned again to keep faith a little longer, to look a little closer, and—especially when strategy and effort failed—to avoid inattentive manners which might offend a lady. Keeping that in mind next day we each got a buck.

"On the third day of the buck season I stopped at the Hutton Run Rod & Gun Club Camp, near Six Mile Run in the Black Moshannon Area of Centre County, to make a photo of three deer they had hung up. I complimented the boys, who were from Westmoreland County, on their good record for the brief time they had been in camp when one of the chaps informed me that there should be a fourth deer hanging there still steaming. I asked the hunter how come and he told me the following story:

"Just about a half an hour ago, we were working our way back to camp and were about a quarter of a mile up the hollow back of the camp when we heard cookie shouting for help. Thinking that something serious had happened we all ran back to camp to find him standing just outside the door with a dish-pan in one hand and a dish-rag in the other, pointing up over the bank on the opposite side of the main highway and shouting 'he went up over the bank'. Asking who had run up the bank and what for he replied, a nice big buck. I had come out to dump a pan of dish water and found the buck standing a few feet from the deer hanging up and looking them over. We asked him why in the H—— he didn't shoot and he said he hadn't thought of it." Just another case of old "Buck Fever".

DELBERT EATCHELER,
Division of Public Information

GAME REPORTS DUE

The deadline for submitting your report of game killed is January 15, 1944, but the sooner hunters get them in the less expense the Commission will have in sorting and tabulating them. Last year 96.4% of the licensed hunters cooperated by filing their reports as required, the vast majority of them having mailed them long before the deadline. How about beating that record in submitting your reports for the 1943 season? Those who do not comply may forfeit a $2.00 penalty.

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Pennsylvania Game Commission
Harrisburg, Pa.

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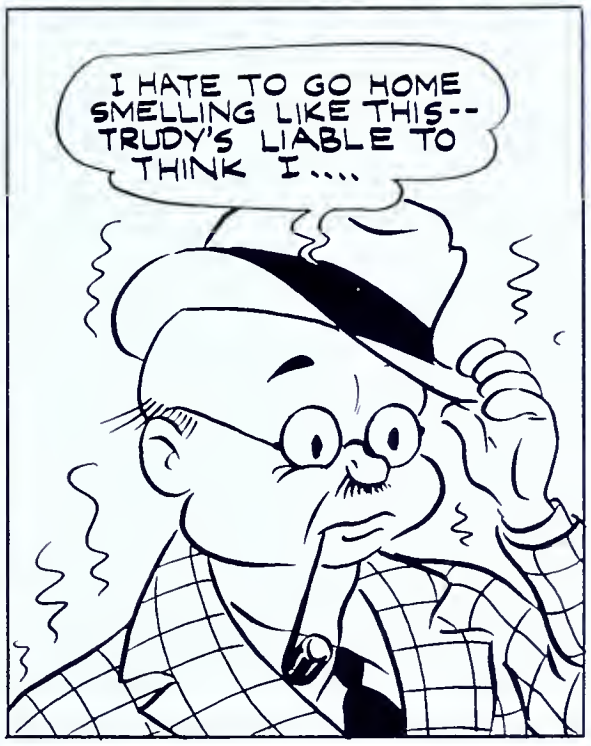
THE FAMILY OF A. HUNTER, ESQUIRE—EPISODE NO. 34



















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AND

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PENNSYLVANIA
GAME NEWS



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February 1944 Ten Cents

PENNSYLVANIA GAME NEWS

PUBLISHED MONTHLY BY THE PENNSYLVANIA GAME COMMISSION, HARRISBURG, PENNSYLVANIA

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EDITORIAL

FEBRUARY, 1944

IN THIS ISSUE

★

Pennsylvania's 1942 Game Harvest
By N. E. Slaybaugh

★

You Can Kill 'Em With Kindness
By James and Alice Wilson

★

Our Strength Is In The Earth
By W. M. Landess

★

Large Game Tract Acquired
By W. Gard. Conklin

★

In Pursuit of Beavers
By S. V. Sedlak

★

Wildlife Conservation Its Past, Present and Future
By William Grimm

★

The Hunting of the Buffalo
By Col. Henry W. Shoemaker

★

Army's Lawes Cooperates with Game Laws
By S. C. Houston

★

Current Topics

★

Cover by Jacob Bates Abbott

Early Does It!

While this may seem a poor time to talk about shotgun ammunition for next fall, Representative A. Willis Robertson of Virginia, former Chairman of the Old Dominion State's Game & Inland Fisheries Commission, said as far back as November 29 that "while the War Production Board saw no chance to better the lot of hunters this year, it had promised to start immediately a program for a more liberal allotment of rifle and shotgun shells for the 1944 hunting season."

Robertson, as chairman of the select House Committee on Wildlife Conservation, had been discussing with the WPB and the Army-Navy Munitions Board the possibility of increasing supplies of small arms ammunition for hunters during the 1943 season.

He said he was advised by the WPB that even though greater production could be authorized, additional shells could not be produced and delivered in time for use during the season.

Government agencies having charge of the distribution of shotgun shells for civilian use, he said, authorized the distribution of approximately 100,000,000 shotgun shells, one-half of which were to be distributed prior to October 1, 1943.

The remaining 50,000,000 were to be manufactured by the Winchester and Remington groups, he said. The Winchester group shipped through normal distribution channels 92 per cent and the Remington group 96 per cent of their quotas. Both of them completed their shipments on or before December 1, Robertson said.

He also said his committee ascertained some weeks ago that the War Department was "well up" on its small arms ammunition program and had no objection to existing facilities being used for the manufacture of an additional supply of shotgun shells for civilian use.

Upon receipt of such information, his committee took up with the WPB the question of authorizing such additional production.

In a letter to our executive director dated December 1, Representative Robertson further remarked: "The normal distribution of shotgun shells has been around 700 millions. It necessarily follows that when only 50 millions were distributed prior to October 1st, many distributors got none at all. And some of those may have gone into the black market. If we could have started our program for additional shells about a month earlier we might have been able to accomplish something for last season. I am satisfied we will get a big increase for 1944.

"On the assumption that the Army has on hand more shells than are needed for training purposes, we are trying to get the Army to immediately release some shells for civilian use. We expect to get a definite report on that in the course of next week. I have also taken up with the WPB officials the claim of Abercrombie and Fitch that much of the ammunition it has on hand has been frozen. I have been told informally, that the freezing order was rescinded in October and am asking official confirmation of that fact.

"You are at liberty to use this letter as a basis for a report to your Pennsylvania sportsmen."

This is all encouraging news, indeed! But the Pennsylvania Game Commission is making no predictions as to Congressman Robertson's success, or what changes the tides of battle may necessitate. All we can say is that the hard-hitting former Chairman of the Virginia Commission usually accomplishes his objectives.



Point!

Photo by Col. Wm. Fisher

Pennsylvania's 1942 Game Harvest

By N. E. Slaybaugh

WHILE the nimrods of the Keystone State no longer look upon a big bag of game at the end of the day's hunt as the only compensating factor in happy days afield, it is quite timely these days to place the proper value upon the annual game harvest. The 1942 Game Kill aggregated 14,199,510 pounds, or 7,100 tons. Few will dispute the fact that this amazing quantity of meat did not materially supplement the normal meat supply and save many ration points.

The sportsmen are to be commended for their splendid cooperation in filing their 1942 Game-Kill Reports. The final report completed just in advance of the 1943 season, as published in this article is based on the kill as tabulated from reports filed by 96.4% of the 648,760 licensed hunters. This is 1.1% less than during 1941 and 2.1% less than the record years of 1939 and 1940 when 98.5% of the licensed hunters filed reports. It is most gratifying that the decrease was not greater as it must be borne in mind that many of the boys were called into the armed forces before the deadline for filing reports. Furthermore, it is possible that many hunters secured employment in other states on defense work before they had an opportunity to file their reports. A study of results obtained by the tabulation as given in this article, as compared with other years, reveals some interesting and beneficial facts.

Official Report Previously Published

Because of the number of new hunters each year, many of whom are not familiar with the provision of the Game Law that makes it mandatory to file Game Kill Reports, the Commission deems it advisable to continue its educational program in an effort to have the greatest possible number of hunters file their reports. This Commission much prefers to receive the hunter's report than to be compelled to collect the $2.00 penalty for failure to file the report. It requires considerable time to carry on the educational program, which consists of mailing special reminder notices to delinquent hunters as soon after the deadline for filing reports as is humanly possible to do so. During 1942 this group included 19% of the licensed hunters. This explains why the official report cannot be published much before the ensuing season. Under date of October 28, 1943 there was a statewide news release on the official 1942 Game Kill.

If the hunters who are now familiar with the provisions of the Game Law will continue to cooperate and also remind the "newcomers" about filing their reports on or before January 16 each year, it would make it possible to publish the final Game-Kill Report at a much earlier date.

Six-Year Record

The Commission has tabulated these Game-Kill Reports for six years. The Commission's experience during 1937, the first year the reports were tabulated, namely, that the previously published reports, based on field estimates, were in most instances too conservative, has been duplicated during the remaining five years.

In order that the results of the six-year tabulation (1937-42) may be readily available to the reader without referring to previously published reports, also the average annual kill for the same period, as contrasted to the average annual kill during the six years which immediately preceded it (1931-36), during which period the compilation was based on field estimates, a statement giving this information also accompanies this article.

During the 1937-42 period the average annual kill numbered 5,859,448 birds and mammals, whereas for the previous period (1931-36) the annual average kill was only 3,913,304 pieces of game. During 1937-42 the average annual weight of the game harvest was 9,180 tons, as against 5,515 tons annually for the previous six years. It is obvious that there are reasons other than those already explained for the increase. They include: (a) the severity of the 1935-36 winter, which resulted in an abnormal decrease in the kill during the short season allowed in 1936; (b) improvements in the Commission's operating and stocking programs; (c) more effective cooperation of landowners and sportsmen, and other factors have combined to produce more game for the hunters.



Photo by D. L. Batcheler

These members of the Hutton Run Camp, Black Moshannon area of Centre County, hung up three nice ones during the past season.

Added Benefits

Sportsmen continue to ask questions about the advisability of tabulating the reports. The sportsmen pay the bill. Why should they not manifest a keen interest in such matters? The Commission is always glad to receive constructive suggestions and avails itself of every opportunity to answer inquiries relative to results obtained by the expenditure of the funds entrusted to its care.

As important as the factual information on the annual game kill is to the Commission in planning the conservation program, which can only be obtained by tabulating the results of the annual harvest, other beneficial results are obtained. During the six years the reports have been tabulated we find that comparatively few hunters are willing to take a chance to cheat in one way or another for the purpose of securing and using a license to which they are not entitled. Furthermore, it is much more difficult now for a non-resident to obtain and use a resident license without being apprehended than at was prior to 1936. The practice of giving false addresses to defeat the purpose of the license tag and to avoid apprehension has been reduced to the minimum. The fact that less "Undeliverable" reminder notices are now returned to the Commission than years ago indicates that desirable results have been obtained in keeping cheating to the minimum.

In recording the benefits derived from the tabulation of the reports on the credit side of the ledger it is most interesting to study the non-resident license sales prior to and during the years the reports have been tabulated, as follows:

Prior to Annual Check-Up

1931	8,964
1932	5,251
1933	4,966
1934	6,024
1935	8,460
1936	7,124
Total	40,789

Years Reports Have Been Tabulated

1937	8,357
1938	7,582
1939	9,047
1940	12,748
1941	10,922
1942	8,391
Total	57,047

If it is reasonable to assume that any part of the increase can be attributed directly to the tabulation of the reports, it can readily be seen that the expenditure of from $15,000 to $16,000 annually produces worthwhile results other than the annual inventory of the bag.

The 1942 Kill Summarized

The 1942 kill, with a few exceptions, was entirely satisfactory. The kill consisted of 5,868,758 pieces, weighing 14,199,510 pounds or 7,100 tons, as compared to 5,710,767 pieces,



Photo by D. L. Batcheler

Controlled special seasons when necessary, have resulted in larger and heavier deer.

weighing 13,089,898 pounds, or 6,645 tons, during 1941. The kill of legal antlered deer ran considerably ahead of the 1941 bag. The kill of only 149 bears was much below normal because of the unfavorable hunting weather which prevailed, and because a lot of bears had holed up earlier than usual, having fattened themselves on apples and other foods at the expense of many irate landowners whose corn fields, corn cribs, beehives and livestock were raided. The Commission hopes that the official tabulation will show that many more bears were taken during the 1943 season, so as to minimize the depredations that ordinarily follow hibernation in the Spring, when the animals emerge gaunt and ravenous.

There was no material change in the cottontail rabbit bag, there being 3,504,390 killed, as compared to 3,575,104 during 1941. The kill of hares (Snowshoes) was 6,019, much in excess of the kill during the last two open seasons, namely, in 1937, when 2,420 were taken and in 1938 when the kill was 2,120. As was anticipated, the kill of squirrels was higher than usual, 1,201,979, as compared to 936,213 during 1941. The kill of raccoons was 32,664 as against 44,145 for 1941. The kill of wild turkeys was 3,938, a slight incerase over 1941 when 3,911 were taken. The hunters bagged 237,408 ruffed grouse, a gratifying increase over 1941 when the bag was 187,990. Contrary to expectations, the kill of ringnecks dropped below the one-half million mark to 463,794, as compared to 537,990 for 1941. There was not much change in the bobwhite quail kill over the previous year, the bag being 68,409, compared to 70,929 for 1941. A slight decrease was recorded in the 1942 woodcock kill, it being 27,729, whereas the 1941 kill was 31,328. The number of grackles (blackbirds) killed reached a new low level of 38,888, as compared to 46,566 for 1941. The waterfowl hunters enjoyed the best season for many years, the kill being 64,454, topping the 1941 kill by 8,618 birds. While the popularity of woodchuck hunting continues, the kill of 184,921 was below the 1941 all-time record when 196,729 animals were taken. During 1942 the kill of shore birds (Gallinules and Rails) numbered 2,671, whereas in 1941 the kill (which also included Wilson's Snipe) was 4,162.

Number of Days Hunted

Since 1939 the Commission has been tabulating the number of days the average man hunts and how he divides his time between small game and big game hunting. It does not require an extra mechanical operation to secure this information as it is possible to obtain it at the time the game-kill is tabulated.

There were 625,285 hunters who filed their 1942 Reports, of which number 325,127, or 62.0%, supplied information on the number of days hunted. This compares to 365,562, or 54.6%, of the 669,812 hunters who furnished comparable information for 1941. The tabulation of this information being so recent, the results of the 1942 and 1941 years are both given in this article.

It is most interesting to compare the results of this tabulation for the two years under review. In 1942 there were 17,271 hunters, or 5.3% of those giving this information, who reported that only big game was hunted, while in 1941 there were 16,824 hunters, or 4.6% of those reporting the number of days hunted, who hunted big game only. During 1942 there were 164,913, or 50.7% of those so reporting, who hunted small game only, whereas in 1941 there were 171,577, or 46.9% of those reporting, who hunted small game only.

The reader must remember that the average number of days hunted per man and how he divided his time is not based on the entire 648,760 licensed hunters during 1942, but only on the 325,127 or 48.6% of the licensees. It is reasonable to assume that the percentages given will hold true for the entire army of hunters.

By adding the 17,271 "big game only" hunters to the 142,943 "both small and big game" hunters (1942), we get a figure of 160,214, or 49.3%, of the 325,127 hunters who supplied the information on the number of days hunted who sought big game.

For the first time since we have tabulated the number of days hunted the "small game only" hunters ran ahead of the "both small and big game" hunters. This shift no doubt was brought about because of the inability of hunters to get the usual number of days off for hunting and also transportation problems, with the result that many hunters devoted the only time they had to "small game only" at favorite places near their homes.

Of special interest is the fact that the breakdown of the number of separate days



Photo by W. L. R. Drake

The ringneck is still a favorite of Pennsylvania nimrods and is more than worthy of its mettle. Thousands are stocked annually from the State Game Farms.

hunted by "both small and big game" hunters shows the average numbers of days devoted to "small game" was 6.3 as against an average of 5.3 for the hunter who hunted only "small game." We also find that the hunter in this same classification devoted an average of 3.3 to "big game only," whereas the average number of days for hunters in the "big game only" group was 3.0. It is apparent that "both small and big game" hunters include those who were able to devote more time to hunting.

By adding the 17,271 "big game only" hunters to the group of 142,943 who hunted "both small and big game" we arrive at a total of 160,214 hunters, or 49.3%, of the 325,127 reporting the number of days hunted, who devoted some time to "big game" hunting. By the same token, if we add the 164,913 "small game only" hunters to the 142,943 "both small and big game hunters," we find that 307,856, or 94.7% of the 325,127 hunters reporting the number of days hunted, found some time to hunt small game.

The 325,127 hunters (1942) who gave this information enjoyed a total of 2,294,548 man-days, different days on which they hunted, of sport afield (365,562 hunters in 1941 reported 2,722,211 days). If this same average held true for the 648,760 licensed hunters in 1942, the license holders in Pennsylvania devoted a total of 4,606,196 separate man-days to hunting, during which time there were 5,868,758 pieces of game taken. On the basis of the 1941 report, the 686,356 licensed hunters devoted a total of 5,079,034 separate man-days to hunting, with 5,710,767 pieces of game taken. None of these computations takes into account the amount of hunting or the total game killed by the farmers on Pennsylvania's 169,027 farms, many of whom did not secure licenses. However, on the basis of an occupational classification of licensed hunters made by the Commission several years ago, it must be borne in mind that about 9½% of the license holders are farmers.

According to the game-kill tabulation, during the 1942 season 15.13% of the licensed hunters killed no game, as compared to 16.5% during 1941. This includes not only those who were unsuccessful but also those who bought licenses and did not have an opportunity to hunt.



Photo by W. L. R. Drake

Squirrel hunting is an extremely popular sport, although not too many gunners hunt them with a small bore rifle and scope.

DATA ON NUMBER OF DAYS HUNTED—1942

No. of Hunters Reporting	Percent	Kind of Game Hunted	Number Separate Days Hunted	Average Number of Days Per Hunter
17,271	5.3	Big Game Only	51,368	3.0
164,913	50.7	Small Game Only	870,557	5.3
142,948	44.0	Both Small and Big Game *	1,372,623	9.6
325,127	100%		2,294,548	7.1

(* Small Game—900,909—6.3)
(* Big Game—471,714—3.3)

1941

No. of Hunters Reporting	Percent	Kind of Game Hunted	Number Separate Days Hunted	Average Number of Days Per Hunter
16,824	4.6	Big Game Only	66,312	3.9
171,577	46.9	Small Game Only	942,187	5.5
177,161	48.5	Both Small and Big Game *	1,713,712	9.7
365,562	100%		2,722,211	7.4

(* Small Game—1,129,473 days—6.4)
(* Big Game—584,239 days—3.3)

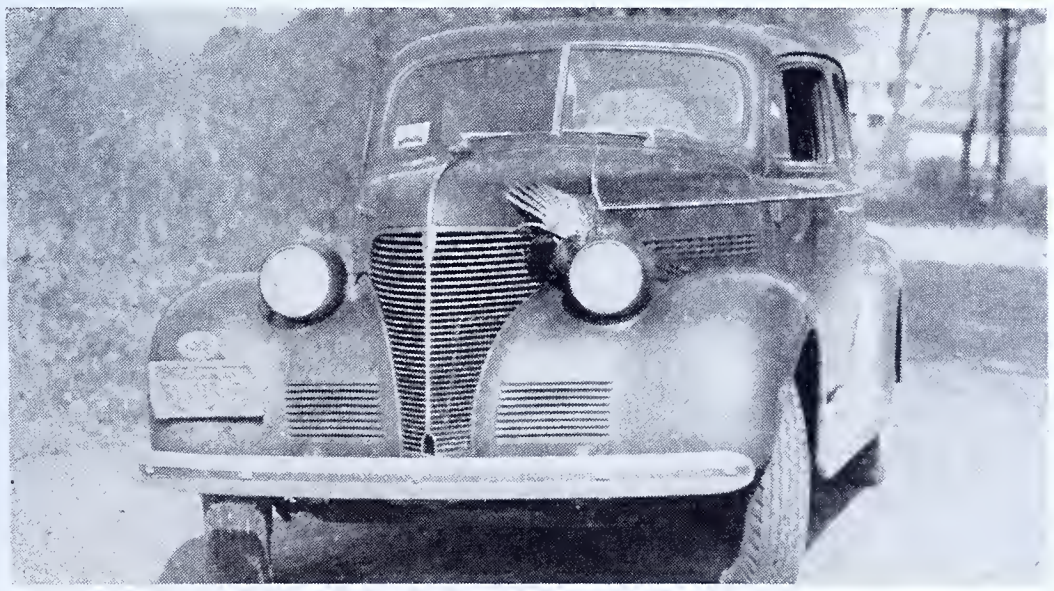


Photo by W. L. R. Drake

When automobile travel was at its peak in pre-war days, thousands of ringnecks were killed annually in Pennsylvania by flying into cars.

Hunters Cooperating

After having tabulated the reports for six years, it is apparent that our great army of hunters, especially the "old timers," understands the system in effect prior to 1937 was not practical, and it was necessary to amend the law in 1937 to provide a practical system to obtain annual inventories of the game harvest. From the very outset the Commission had hoped that after several years the educational program could be discontinued without serious results, but such has not been the case. To give an equal opportunity to the rather large "new crop" of hunters who join the fraternity every year, the Commission has deemed it advisable to continue the educational program.

The table on page 20 reveals the fact that the program has produced satisfactory results.

It is believed that if a hunter after once having received a Special Reminder Notice relative to having neglected the filing his

(Continued on page 20)



LUMBER ROAD THROUGH GOOD HARDWOOD TIMBER

Stony Creek Valley, within the former Philadelphia and Reading Coal and Iron Company lands, under contract for purchase by the Game Commission.

Large Game

By W. Gard. Conklin

A LAND purchase project of outstanding interest and importance to the public, especially to the large number of sportsmen and other outdoor enthusiasts in Dauphin, Lebanon, and Schuylkill Counties, was announced by Governor Edward Martin in December 1943, the purchase having been agreed upon by the Game Commission on November 18. This project comprises approximately 37,762 acres of forest covered mountains in northern Dauphin and Lebanon Counties. No farm land is included. The exact acreage will later be determined by survey made by the Commission's engineers.

These lands, which originally totalled more than 40,000 acres, were formerly owned by the Philadelphia & Reading Coal and Iron Company, having been in its possession for more than half a century.

The lands are divided into two main blocks, being separated only by a comparatively narrow strip through Clark Valley, Dauphin County. Most of this strip was acquired by the City of Harrisburg for its water supply. The city within the last few years constructed a dam across Clark Creek, forming a large reservoir which supplies the greater part of its water supply. Part of its watershed is included within the Game Commission's purchase project. Since protection of forests from devastating fires is an important factor in game management practices, and since good forest growth is essential to a watershed, Harrisburg's supply of water will receive no little benefit from the Commission's acquisition of lands adjacent to its reservoir.

The area north of Clark Valley, frequently called either the Lykens or Greenland section, is south of the town of Lykens and contains about 10,749 acres. It is about ten miles long and three miles at its greatest width. Perhaps as much as one-half of it is covered with scrub oak. The remainder of the area contains commercially valuable tree species of various sizes and ages.

The area south of Clark Creek contains approximately 27,013 acres. It is about 24 miles long, extending from a point near Dauphin eastward through Lebanon County to the Schuylkill County line, and is about 3¼ miles at its greatest width. It includes about 16 miles of Stony Creek Valley, the north slope of Second Mountain, and most of Third, Stony and Sharp Mountains. It likewise includes the Gold Mine and Rausch Gap areas, approximately 4,000 acres, where a moderate amount of coal is now being removed. Coal rights are excepted and reserved from this area for a period of 25 years. No minerals are reserved on the remaining approximately 33,000 acres. Three oil pipe lines and one telephone line cross this area, and the Schuylkill and Susquehanna Branch of the Philadelphia & Reading Coal and Iron Company railroad extends through it for a distance of about 24 miles.

Forest growth, in spite of many very rocky spots, is of better quality on the Stony Creek block than on the Lykens block. It is the usual mixture of hardwoods, interspersed with pines, and hemlock, customarily found in the central and southern parts of Pennsylvania. White, black, rock and scarlet oaks, yellow poplar, black and yellow birches, hickory and other species range from sapling to saw log size.

Of interest to nature lovers is the fact that American Holly (Ilex apaca) is found on a few spots in Stony Creek Valley. This beautiful evergreen shrub, with its red berries, commonly used for Christmas decorations, is not found in any abundance in Pennsylvania, it being a species growing in abundance in Southern States. The comparatively small amount found here will receive added protection through Commonwealth ownership. The penalty for removing it from State Game Lands is $25 for each plant.

Wildlife is reasonably abundant throughout the area being acquired, which is somewhat surprising considering its close proximity to large centers of population. The number and abundance of the various species present is unusual within an individual land purchase project. Practically all of the forest game species native to southern and central Pennsylvania are to be found here. Deer of good size and condition can be classed as abundant, and an occasional bear is reportedly seen. Wild turkeys, once common in this section, are gradually increasing in numbers. A few beavers are present, as well as foxes and other fur-bearers. Gray squirrels, cottontail rabbits, and raccoons are fairly abundant, and a few ruffed grouse are found. Reasonably good trout fishing is available in Stony Creek.

One privately owned interior holding of about 200 acres exists within the Lykens section. It is thought that this tract will later be secured in one way or another. In the Stony Creek section, there are three such holdings. One tract of about 90 acres at Cold Spring is commonly known as Camp Shand and used during the summer months by boys of the Lancaster Y. M. C. A. This was the site of a hotel and health resort many years ago. The water from Cold Spring is said to have medicinal properties. This tract had once been proposed as the site for a Jesuit Priests Monastery, but the plan was dropped for some unknown reason. Two other tracts, which will be interior holdings in the same general vicinity, had never belonged to the Philadelphia & Reading Coal and Iron Company. These two may possibly likewise be secured in the future in one way or another.



STONY CREEK

Well-known to sportsmen of Dauphin County. Within the former Philadelphia and Reading Coal and Iron Company lands under contract for purchase by the Game Commission.

ct Acquired

Commission Purchases Large Acreage in Dauphin and Lebanon Counties—Former Philadelphia & Reading Coal and Iron Company Lands

The fact that the lands which the Game Commission is acquiring is situate adjacent the Indiantown Gap Military Reservation is pleasing to military authorities. Governor Martin recently made the statement, "The acquisition of this large tract contiguous to the Artillery Range of the famous Indiantown Gap Military Reservation is most timely, as it can be used immediately to aid the war effort if needed."

Whether or not any portion of the land now being acquired by the Game Commission will be used for military maneuvers is, problematical. It stands to reason, however, that if any State Game Lands can be used to advantage in aiding the war effort, sportsmen whose money makes the purchase possible will be happy over such eventuality.

The Grand View Coal Company became the record owner in 1938. It later transferred about 2300 acres to the City of Harrisburg for use in connection with its water system. Early in 1942, 11,113 acres were conveyed by the Grand View Coal Company to H. Albert Smith, and in September 1943 the coal rights for about 4,000 acres of this area were conveyed to Ralph C. Mathewson. In the meantime, the Pennsylvania Department of Military Affairs agreed to purchase in the neighborhood of 1,000 acres of the original tract to be added to the Artillery Range of the well known Indiantown Gap Military Reservation.

The Commission's successful negotiations were conducted with Allen Gray Clark, Esq., President of the Grand View Coal Company and others concerned and include the 11,113 acres previously sold to H. Albert Smith. However, the Commission when it agreed to purchase the lands stipulated that it would accept the Smith acreage only if Mr. Clark could persuade Mr. Mathewson to release his coal rights at the expiration of twenty-five years for the 4,000 acres. He finally succeeded in doing so, and the land purchase contracts were then promptly entered into for the full amount of 37,762 acres, more or less.

Examining the titles and surveying the boundary lines of this large acreage will require many months of exacting work and, unfortunately, more than the ordinary length of time will be required since the staff of the Division of Lands has been reduced as a result of the war. When titles are finally transferred to the Commonwealth, for use of the Game Commission, the area will become one of the outstanding and important unit blocks of State Game Lands, and dedicated indefinitely for the use of sportsmen and the general public.



VIEW OF THE LYKENS SECTION
At the junction of the Greenland dirt road and the State Highway on Peters Mountain.
Forest growth on the left side of the road is largely scrub oak; commercially valuable trees on the right.
Part of the former Philadelphia and Reading Coal and Iron Company lands.

This purchase project comprises the largest, practically contiguous, area of land successfully negotiated by the Game Commission since its land purchase program began in 1920. The only other comparable deal was a transaction concluded about 15 years ago for approximately 65,000 acres owned by the Central Pennsylvania Lumber Company. That deal, however, comprised a number of disconnected tracts distributed through a half dozen counties, and actually represented a number of separate purchase projects.

The recent project is of more than customary interest and importance since so large an acreage of good hunting and fishing territory, in an almost contiguous area, and situate so close to a large hunting population, is extremely rare in Pennsylvania. Also, of great importance to sportsmen, who provide the money, is that these lands will cost the Commission an average of a little less than $2 per acre. This price is lower than that paid for comparable lands in other counties of the State, and considerably below the general average of $3.86 per acre paid for the 742,362 acres of State Game Lands bought and paid for since 1920.

Another point of interest, and of no little importance to sportsmen of Dauphin County, is that Dauphin is one of only five counties in the State in which no State Game Lands had previously been acquired. A total of 5.641 acres were purchased in Lebanon County within the past few years, the former Mt. Gretna Military Reservation. Efforts during the past 23 years to secure one or more contiguous areas of good hunting and fishing territory in Dauphin County, of a size large enough to make worthwhile game management projects, and at prices the Commission is justified in paying for such lands, proved fruitless. For the Commission now to be able to purchase what constitutes a huge acreage in a densely populated section of the State is exceedingly fortunate. Dauphin County sportsmen, naturally, urged the acquisition of these lands, as did also many sportsmen in Schuylkill County. The Southeastern Division of the Pennsylvania Federation of Sportsmen's Clubs, comprising the counties east of the Susquehanna River and south of the Blue Mountain range, likewise endorsed the purchase.

Attention is invited to the map of the lands involved in this purchase reproduced on the inside of the back cover of this issue. The boundaries are indicated in heavy lines with hatching. County and township lines are also shown, as well as the more important roads, city, and towns in the vicinity and other important topographic details.



COMMERCIALLY VALUABLE TREES ALONG THE GOLD MINE ROAD
Eastern section of the former Philadelphia and Reading Coal and Iron Company property.

You Can KILL 'EM *with* KINDNESS



RECENT articles state that there is a powerful movement under way to slaughter deer and elk herds for meat, sponsored by proponents of more-meat-at-any-cost and by "big livestock interests" that want to run more cattle on the range. Certain Government agencies, supposedly under pressure by these groups, are trying to tell the public that big game populations in many areas have outstripped their food supply and surpluses must be cut down. Actually, these recent articles say, these alleged "big game surpluses do not exist. Predatory interests have trumped up this excuse to serve their own selfish purposes.

One's natural impulse is to accept this statement of the case at its face value. Nobody wants to see our game herds destroyed and the fruits of forty years of conservation ruthlessly wiped out. To a layman, these articles appear reasonable enough, and all conservationists, including the authors of this article, will appreciate the sincere desire to protect our wildlife resources from selfish, short-sighted exploitation.

The conviction that there is no surplus game is shared by millions of Americans, and it is entirely understandable.

We spent last weekend in the Horseshoe Park area of Rocky Mountain National Park. This sheltered valley, an important unit of the Park's winter range for deer and elk, is known to be one of the seriously overcrowded "game slums" in Colorado. And yet there appears to be an unusually luxuriant growth of grass on this range! A layman would say it was a veritable paradise for deer and elk. Of course, the grass is covered with snow much of the winter, but "it could easily be put up and fed as hay."

There are two flaws in this reasoning. The first is that most of what looks like grass to an unpracticed observer is actually rush, which is quite unpalatable to deer and elk.

Still more significant is the fact that even grass itself is, in general, a very poor food for wild game. Deer will actually starve to death on grass or hay. Their natural food is browse—brush, bark, twigs and shrubs. Pittman-Robertson studies indicate that deer need a diet of at least ninety percent browse to sustain life and health for any length of time.

Elk eat considerably more grass than deer, but even elk, in Colorado, seem to prefer browse to grass, while in Jackson Hole, Wyoming, where every winter the Fish and Wildlife Service feeds supplementary rations of hay to about 10,000 hungry elk, the winter loss from malnutrition averages ten percent of the herd.

Even Western people can't believe these facts. Popular demand forces the Colorado Game Department to spend about $30,000 a year feeding hay and concentrates to deer and elk that have exhausted their natural food supply. Last winter, of 5,000 artificially fed deer in the Gunnison area of southwestern Colorado, 2,462—nearly half the herd—died of starvation with their bellies full! Post-mortem examinations proved conclusively that they could not digest the food. And yet the citizens of several other Western States are now demanding the artificial feeding of surplus herds.

You cannot save starving deer and elk by feeding them artificially—or by depending on the rich "grass" of Horseshoe Park.

An unpracticed eye might not even detect the damage to browse in Horseshoe Park. Many varieties of shrubs and brush have not been touched, while others obviously have not been browsed heavily enough to harm them at all.

However, these are varieties which, under ordinary circumstances, are quite unpalatable to deer and elk. The fact that they are being browsed at all indicates that the animals are desperate for food. If you saw a white man eating beetles, cockroaches and flies, you would not conclude that he enjoyed or thrived on such a diet. You would

NOBODY WANTS TO SEE OUR GAME HERDS DESTROYED AND THE FRUIT OF YEARS OF CONSERVATION WIPED OUT BUT - -

By James and Alice Wilson

Reprint courtesy Elks Magazine, November, 1943



Above are mule deer on their winter feed grounds at Red Creek, Gunnison National Forest.

more are dying. Meanwhile, no new growth is coming in. It is eaten off as soon as it gets above the ground.

A guest at the lodge where we stayed overnight said, "Those trees must be affected by some kind of disease." He could not believe that the damage had been done by deer and elk, until we pointed out the tooth marks in the trunks.

The novice is still further misled by the fact that there is usually plenty of forage of all kinds in the higher altitudes and on the mountain sides. These areas obviously have not been over-browsed at all. However, this is all *summer* range, and except in comparatively few regions there has never been any shortage of that. The carrying capacity of an area is almost always limited by the amount of available *winter* range.

Before the white man came to the West, the foothills and the sheltered mountain valleys and parks were all winter range for deer and elk. Settlement converted most of these areas into ranch lands. As the game was crowded out and up into higher altitudes, much of the old summer range became winter range. It became harder and harder for deer and elk to scratch out a living in the winter. But a growing human population needed beef.

The winter carrying capacity of the elk range of Rocky Mountain National Park and a large adjoining territory is estimated at 950 animals. Present elk population is approximately 2,500. The natural annual increase averages about 20%. This herd, which was started with 25 animals in 1913, has multiplied itself one hundred times!

We have described conditions in Horseshoe Park at length because it is typical of the hundreds of over-crowded "game slums" to

(Continued on page 23)

conclude that he was trying desperately to stave off starvation.

So it is with the deer and elk that winter in Horseshoe Park. Those kinds of vegetation which form their natural food are literally eaten down to bare stubs, and, in most cases, even these are dead or dying. However, an uninitiated observer might easily assume that even this stubby condition was normal—that it was some kind of coarse, comparatively leafless growth such as one often finds at timberline.

It isn't easy for a layman to recognize the signs of over-browsing. Grass and plants unpalatable to game creep in imperceptibly to replace the palatable browse that is killed out. An untrained observer would not be likely to detect this unless it were pointed out to him.

The tree growth on such range as Horseshoe Park is mostly aspen, an important item in the diet of both deer and elk. The aspen trunks in Horseshoe Park are absolutely black to a height of about five feet, where the bark has been destroyed. About one-fourth of the trees are dead, and many



At right, above: A juniper, stripped as high as a deer can reach. Always a sign of a badly overbrowsed range.



This deer is starving to death on a diet of hay and concentrates.

Our Strength Is In The Earth

By W. M. Landess



Wildlife is made of rock, air and water. Fish come from soil, no less than do birds and cotton, beef and greens.

WE see birds in the air and seldom realize that birds come not out of the air but out of the ground. We speak sorrowfully of the decadence of wildlife. It is only one symptom of the declining productivity of our land.

A summer traveler crossing Tennessee in a car will find the vision through his windshield quickly clouded with the crushed bodies of millions of insects when he dips down to the Central Basin of the State. The soils here are rich in lime and phosphate. Here bluegrass grows and life—all life—abounds. But as the traveler passes on to the mineral-poor soils of the High Rim encompassing the Basin the insect crush on his windshield will be negligible.

Where there are fewer insects there will probably be fewer birds. A landscape and all that grows upon it, including man, is a living whole, mysteriously compounded of rock, sunshine, air and water. Soil is the thin organic-mineral film through which the locked fertility of the land's bedrock is transmuted into living growths. The character of the bedrock and the climate determine the fertility of the soil. Soil may be naturally rich in mineral such as lime and phosphate, or naturally poor; but a condition of original richness can be quickly diminished or dissipated by the hand of man.

When soil is thinned and depleted by accelerated erosion and by overcropping the yield diminishes. *All* yields diminish: field crops, livestock, wildlife, scenic values, human strength, confidence and happiness. The dimunition is not only in quantity, but in quality. Crop yields in the Tennessee Basin are larger, the type of plant is higher, and the food content of the crops is notably richer, more sustaining, than on the mineral-poor soils of the Highland Rim. Analyses of lespedeza hay, made by the Tennessee Experiment Station for instance, show two and one-half times the phosphorus content, one and one-half times the lime content, and great differences in potash and nitrogen between the crops of the Basin and Rim. Farm livestock shows a corresponding difference in quality, efficiency and number. On the Western Rim area of Tennessee we find 23 units of livestock per square mile; in the Basin, 81.

The excessively "clean" methods of farming which have been so generally followed since the White settlement of America have often resulted in topsoil laid open to erosion. "The soil weakened," J. N. Darling has said of the plow-up of grassland for corn and wheat in southern Iowa during World War I. "All life weakened. The water-table fell. Springs went dry. Game went dry and died."

We have learned something in the years since. We see now that this does not have to be. The *choice* of suitable crops for suitable slopes and soils is an advancing art and practice in keeping all of a living landscape vigorously productive and beautiful. For many slopes and soils in our farming country the most suitable crops are forests, sheltering wildlife. Even in flat and fertile farming country we see now that we have to be too "clean" in our culture. We are beginning to encourage brush and briars, dead trees and hollow stumps for our wildlife. And we are coming to know that waters do not so much need young life supplied in them as they needed mud kept out, and foods essential for wildlife kept in.

Only recently have we come to realize that levels of soil fertility have much to do with our *choice* of crops requiring clean cultivation or of mat or sod crops. Of course, muddy waters go with row crops. In counties similar in area and adjoining each other, we find 66 per cent of the cropland in cover or sod crops and 33 percent in cultivated crops on the mineral rich soil of the Basin, whereas the figures are exactly reversed on the poor soils of the Rim. In the Basin the parent material is lime and phosphate rock. In the Rim the parent rock is of much less value for living organisms. The presence of adequate quantities of lime and phosphorus seem to determine a system that maintains other elements of productivity at high levels. If we observe such a law in nature then



Our strength is in the earth!

Editor's Note: Although based on conditions existing in parts of Tennessee, the following article by W. M. Landess, Chief, Program Exposition Unit, Department of Agricultural Relations of the Tennessee Valley Authority, is applicable to conditions in Pennsylvania and other states because it portrays only too vividly the interrelations of Man with the soil, the forests, the waters, and the lesser living things which, through wise management, furnish existence for Man and make his being on earth happy and prosperous. It is especially recommended for conservationists and school teachers.

would not we be wise to follow it in our land management?

All forces working for soil conservation are coming into a greater and greater appreciation of cover, of the incorporation of organic matter into topsoil and of protection of precious life-giving elements from being washed away. Methods of farming that add to the fertility of the soil, we begin to see, must imitate rather than violate natural cover.

Homes, community buildings and the entire culture follow the rise and fall in levels of soil fertility. Human ability to provide facilities of education, of worship, of urban development and to secure all the advantages of a rich culture are inexorably tied to the levels of those materials in soil that nourish life.

Wildlife enthusiasts, sportsmen, farmers, nutritionists, even war strategists, all are slowly perceiving they have a common problem. Fertile land is the only basis of a rich, abundant, energetic life, whether that life be earthworm, grouse, deer, dairy cow or a soldier.

How, then, can we bring the soil into richest fruition? The mystery of life is all about us, so commonplace that few ever pause to study it. Seldom do we find anyone asking his relation to it, to say nothing of his obligation. We simply accept soil and life, and if wildlife wants a share in it with us we destroy and devour them. If nations of people or races threaten our store of energy for living we forget the brotherhood of man and scramble for the ammunition. Perhaps some day we will understand that abundance of all forms of life makes for abundance of rich living, and not for competition, starvation, and slaughter.

All life has a common mooring. Soil makes life and life makes soil. We may some day envision that great and excellent amounts of life can be maintained at a high level, in the woods, in the fields and over all the kingdoms of the earth. Director James P. Pope of TVA recently said in a speech, "The feeling that one part of the country advances at the expense of another is giving way to a new conviction that progress of the nation as a whole is limited by conditions in its less prosperous parts." This seems true in nature as well as in society. With such a new conviction, accompanied perhaps by the expenditure of a mere fraction of the cost of war, we may through soil science forestall the frustration of peoples and the waste that accompanies the decline of civilizations.



"All the rivers run to the sea." Water is earth's blood. Clean streams speak of healthy, yielding earth. Soiled streams mean a sick country, clogged harbors, diminished wildlife.

What are the laws in nature, that justify so hopeful a prophecy? More energy from the sun reaches the earth in a minute than all living things on the earth can use in a year. Next to energy the most needed material for life is water. Three-fifths of the globe is water. Air is so plentiful that all life using its maximum amount can't alter its composition even a trace. And rock or minerals make up the entire core of the earth. The only exhaustible or limiting factors in all this profligacy of nature is the supply of essential available minerals at certain places and at certain times, and the distribution of water. The bottleneck to a completely satisfying flow of manna is the limited opportunity of growing plants to take minerals, water and air, and through their chlorophyll, to utilize the sun's energy in the fabrication of new richer, more intricate compounds usable by other life.

Man interfers with natural law. Plants were once so far ahead of life's demands on the earth they were able to store up great reserves of energy in the form of coal, oil, and gas. What an ever-normal granary they are proving to our culture and to our supreme struggle today! In our greed, we overstep nature's production and cut off life at its source. Vigorous life demands ever-increasing amounts of the nutrient elements of life in that belt of the earth we sometimes contemptuously refer to as "dirt." The lichen on a rock is drawing its essential life food from the rock's surface just as a baby draws its nourishment from the mother's breast. Water must be there to dissolve, carry and unite with the minerals. Air must supply essential carbon and nitrogen. So life had its beginning.



Phosphate and lime put the spark of life into dying land. Leguminous cover, bearing nitrogen from air, takes hold, and bare earth is clad.

(Continued on page 21)



Joe, and two of the beavers taken on Six Mile Run.

In Pursuit of Beavers

IN the game of trapping there are many cheerful and pleasant days, but there come also the more trying, troublesome times that tell whether one is cut out for arduous tasks or not. The opening of the two-week beaver season which lies ahead reminds me especially of the varied experiences encountered during the first beaver season exactly ten years ago. At that time beaver colonies were quite numerous throughout the State. Having had absolute legal protection since 1917 when a small number were imported and planted here, they multiplied and spread out over many widely separated and suitable living areas. The first beaver trapping season established was something new to many old trappers as well as to others who were to try their hand at the game for the first time.

The Black Moshannon area of Centre County was my stamping ground and I knew the woods and waters thereabouts about as good as any woodsman, and I was familiar with most of the places where the beavers had established themselves. So, when the time drew near to get prepared for the new venture I decided that I would locate on Corbin Run, which is a tributary of Six Mile Run. The place wasn't too far away and there was the possibility that I could get my bag limit there without any trouble. In the course of time Joe, one of my family's nine huntin' and fishin' brothers, got the fever and the urge to go along on the expedition so we had decided to hit the beaver trails together.

Up on the mountain O. P. "Putt" McCord, the forest ranger at the time, had gotten permission and assured me that I would be allowed the use of the small hunting lodge that stood near the waters of the Corbin, and so far as major preliminary work was concerned we were all set to go.

We had observed the weather closely the last few days of that February (the season was to open on the first of March) and we'd get out time and again to scan the skies. The sun had shone and it was only moderately cool with hardly any snow on the ground. Really it was too good to be true. A wise woodsman likes to learn all that he can about weather anyhow and we had presumed that the unusual condition was the calm before the storm. Our presumption was right. It started to snow—and it snowed and snowed and snowed. For two days and nights there was hardly a let-up at any time, and as the big white flakes piled up, one on top of the other, our trapping ardor cooled off and our faces turned red. We were confronted with a most disheartening picture inasmuch as it foretold the hardships that would have to be endured in the ensuing days. Then, when the seemingly endless snowfall did cease, the whirling north winds swept violently across every hill and valley, and thermometers slumped to shivering low temperatures. There must have been something like fifteen or eighteen inches of the flaky material on the ground and we were faced with the problem of how to pack in. Snow or no snow, we were determined to get there.

To take a chance with the car or not to? There was the possibility that we'd get stuck in the snow somewhere. To use a horse seemed more sensible even though some of the way might have been broken through because heavy C. C. C. Army trucks were forced to use a part of the road system that we were to follow. However it was the last day of February and we had to get there so a horse it was. We loaded the animal up with paraphernalia we needed and were off! Joe, with one packbasket on his back, was leading the old mare out of the stable while I, with another load on my back, followed behind after closing the stable door. Not more than sixty seconds later we realized that the old girl had gotten cold feet. To go any further with her was out of question. She resisted. And when Joe coaxed her "come on, come on!" while I coached her with some "get-movin'" language, she ignored everything and got infuriated about it all. When she started to buck and get beyond control, loosening the bulky bundle that was tied to her back and almost succeeding in throwing it off, we had a job on our hands trying to calm her down.

When we came to our normal senses again

By S. V. Sedlak

Photos by the Author



View of Black Moshannon Lake in Centre County. Originally this area was known as the Beaver Meadows. Since beavers were restocked in Pennsylvania they have occupied one part or another of this region. At the present (1944) a colony inhabits Shirk Run (background, left) and the over-all length of the breast of the dam which these industrious animals constructed is several hundred feet in length.

it was along about ten o'clock in the morning. The Ford was the one and only hope then, and after one more final checkup to make sure that it was okay, Joe took hold of the crank and spun it around again and again. Finally the motor kicked over and we got the old jalopy warmed up. Then with renewed energy and confidence we loaded the car up with baggage and were off again! The car moved along slowly but steadily, and after we had gone a mile the road looked even better because the heavy C. C. C. trucks had broken it up. We made pretty good time, four more miles in about one hour, and stopped at "Putt's" house to pick up some traps. Somehow the key to the cabin had gotten mislaid and couldn't be located so we let it be known that we could manage to get along without it. We decided to post-haste along because we still had seven miles to go and the uncertainties of the last three of these made me a little worried. Finally we hit the old "farm road," a one-way log road that had been hewn out years ago when lumberjacks cut the timber, and although there wasn't much grade one way or another here, there were windfalls or snowdrifts somewhere ahead, surely. That was the last lap of the hike to beaverland, and the car moved along surprisingly well for quite a distance when it overheated and we were forced to stop.

When we started off again the chains tore vigorously down through that deep snow and the old chariot went along nicely until we came to a clearing at a place where there used to be a homestead. Here the snow was really drifted and more of it was sweeping in. The car groaned, stuttered and sputtered, and then stopped. We got the snow shovels into action and before long we were as white and hoary as the typical snow man. You couldn't tell us apart from the snow. The strong winds howled defiantly, and we took turns about advancing the car little by little. Time and again we'd buck the drifts furiously, trying in the hardest way to get through. The tire chains broke repeatedly and once, on an incline, the car slid off the road to complicate things even more. The winds wailed and burned our faces. Wotta life! Wotta life!! It had taken two hours to go about a quarter of a mile. Slowly, but surely, we were getting to our destination, dusk was coming on, and then when we were descending the last and steepest grade of the treacherous trek the little camp came into view.

We pulled up along side the camp and parked. Since we had no key to the place we had to get in through an unlocked window. A fire was started to warm and thaw our chilled bodies a bit, and then we took the lock off the door so we could use the proper entrance. Everything was packed carefully inside the camp and then Joe hashed up something to eat. Meanwhile I got the traps in order and arranged them so it would be easy to start off at dawn.

When the eastern sky commenced to show the light of a new day there was a noticeable change in the weather, the severe cold was letting up, the howling winds had died down, and the promise of more comforting days loomed ahead. We were all set to string the steel now and I instructed Joe to go ahead and make the first three sets at the most promising places about the beaver house and dam that were located just two minutes walk from and behind the camp. I headed down the stream to the point where Corbin and Six Mile Runs came together at Shield's Dam. There were two beaver lodges and a succession of dams about the place. With snow and ice all around it was no easy task to ferret out good trap locations, but with a little common sense after careful scrutiny of things I selected spots where the water had not frozen. The most promising of these were at the base of the log-work of the big dam proper and here I implanted two sturdy No. 4 size traps, confident that if any beaver moved at all it would have to pass over my traps. At another spit I noticed where one of the big brown furbearers had emerged through thin ice for a look-around the night before and there I rigged up another set. There was no sense in chopping through the ice to insert traps at the exits of the beaver houses because I didn't want to disturb the animals. Furthermore, I wanted to give them a fair sporting chance to get a little away from home.



A beaver house in the waters of Corbin.

While I was still busily engaged in "sewing up" the most likely spots, Joe came down to give me a hand. We set several more traps in open water. Some of these were baited with fresh and tender quaking aspen sticks that had been broken off the limbs of the trees that stood nearby. With a half dozen more traps to go we proceeded up Six Mile Run to the Wolf Rocks vicinity where another beaver colony lived and there, with conditions more favorable, we planted traps in the water near the top and base of each of two dams in the passages that the animals used when crossing over. The sets on the breasts of these dams were wired to heavy stones in such a way that when an animal would be caught it would drown easily.

When the twentieth and the last set was completed it was past lunch time and we brushed the snow away from a heavy log that lay at the side of a hemlock tree and sat down to rest our aching limbs. The cold,

(Continued on page 22)

Wildlife Conservation
Its Past, Present and Future

By William Grimm

(Continued from last month)

IX. Habitats and Carrying Capacities

The first requirement in the management of any species of wildlife is that of providing sufficient and proper habitat. The exact habitat requirements must be determined in each and every case and the land, or water, developed with these requirements in mind. If the habitat requirements of certain species cannot be provided in a given area there is little reason to hope that such species will ever become established there and it is best to devote one's efforts toward developing the area for species which will find suitable habitat and be able to thrive. No amount of work or wishful thinking will establish a species on land where the basic requirement—the habitat—is not suitable for the bird, or mammal, concerned. Habitats may be developed and a great deal may be accomplished by their improvement. An abundance of the right kind of food and cover plants is necessary if any species of wildlife is to prosper.

A given area, no matter how good or how poor food and cover conditions may be, will only be able to support a limited population of a given species. The size of this population is very largely regulated by the quantity of food and cover which is available. In our enthusiasm we are often prone to overlook this fact but, nevertheless, a certain tract of land can only support so many rabbits, or quail, or deer. We are often disappointed if there are not more birds or bunnies in the "back forty" and we are always looking around for something to blame it on, usually everything but the food and cover conditions. During the summer months the food and cover is usually quite ample and the area is able to support fairly large populations. But wait until winter comes and the vegetation is killed and the trees and shrubs are shorn of their leaves. Then it is usually quite a different story. This same area during the winter months is able to provide food and sufficient cover for but a fraction of the birds and mammals which lived there quite comfortably during the summer. A certain number of them will be able to find food and cover and remain in relative security until the coming of spring. The number of individuals of a species which the area is able to support with safety through the winter months is known as the *carrying capacity* of that particular area.

We know now that it is unwise, and certainly not within the principles of good management, to permit any wildlife population to exceed the carrying capacity of the land. Nature tends to remove the surplus if it is not harvested and utilized by man. Excess populations may be driven into other adjacent areas, sometimes through strife within the species itself. Overpopulation often results in premature depletion of the food supply which will in turn result in wholesale starvation, weakening of the remaining individuals, and decimation of their numbers through disease, predation, or adverse weather conditions. In some cases the habitat may be impaired, or in extreme instances largely destroyed, particularly where browsing animals such as deer are concerned.

Let us look at what has happened in the Pennsylvania deer herd. Starting with an almost negative population of these animals, and with only meager restocking, a tremendous population was built up in the course of less than thirty years. This was partially due to the effective system of protection—the abolition of indiscriminate hunting practices, the establishment of a refuge system, etc.—but their almost phenomenal comeback was largely due to extremely favorable natural factors. Thirty or forty years ago the more or less recently cut-over lands were covered with extensive thickets of sprout growth and shrubs which constituted the very best kind of deer habitat to be found anywhere. As a consequence the deer multiplied rapidly. All of the time that this deer herd was increasing the new forests were growing up. As the forests grew out of the sapling stage there was less and less browse available for more and still more deer. Then it happened; the crisis came. Over large areas deer lines began to appear in the forests. Deer began to starve. At the beginning the carrying capacity of the land was extremely high but in the natural course of forest development it became less and less. The deer herd, being now greatly in excess of the carrying capacity, actually ate itself out of "house and home" and often ruined the habitat of other forest species such as wild turkeys and ruffed grouse.

Pennsylvania sportsmen have always taken great pride in their deer herd. Now, whether we like it or not, the fact remains that the deer will have to be kept down to the present carrying capacity of the deer range, not what it was two, or three, or four decades ago. There can always be deer but not the plague of deer we have witnessed during the past ten years or so. It is within the interests of all concerned, including the interests of the deer themselves, that they be kept within the actual carrying capacity of the range. This has been amply demonstrated in Pennsylvania and elsewhere and we must be sensible in the matter as far as the future is concerned.

We fail too often to recognize the importance of habitats and the significance of carrying capacities, particularly in our zeal to increase the game species. Sportsmen are prone to release more expensively pen-raised or imported stock on a piece of land than it can possibly carry with security then wonder what has happened to them when the open season comes around. Many of us expect every field to be full of rabbits and every thicket to be alive with birds and we are quick to blame everything and everybody if they aren't there. We can often make it possible by the simple expedient of improving the food and cover, thus increasing the carrying capacity of the land. This is not only true of game birds and game mammals. It is equally true in the case of furbearers, fish, and all other forms of wild life. The carrying capacity of many streams could be greatly increased through their proper development. Food and cover are the two basic necessities for all kinds of wildlife.

(To be continued)

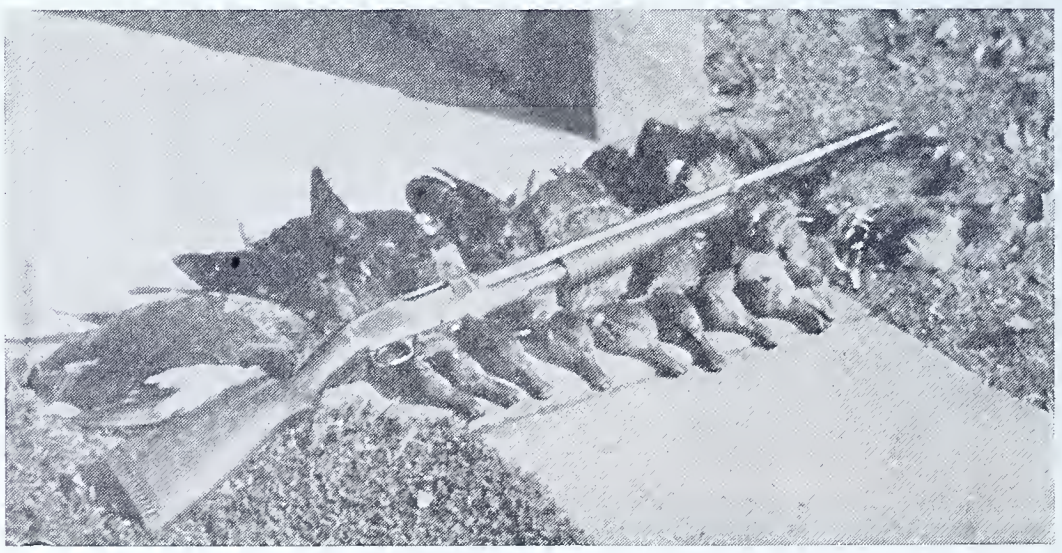


Photo by Wm. Douglas

A fine day's bag of mallards on the Susquehanna, by the photographer, well known Harrisburg sportsman.

THE HUNTING OF THE BUFFALO

The hunting of the buffalo by E. Douglas Branch is a valuable book; some mementoes of the last bison in Pennsylvania

By Col. H. W. Shoemaker

THE noted historian, E. Douglas Branch, performed a great service in getting together under a single cover the final story of the hunting to exterminate the bison, in his great book "Hunting the Buffaloes." It is now only a century and a third ago, 1810, when the last bison, as recorded, bit the dust in Pennsylvania, two animals shot the same year in widely different parts of the grand old Keystone State. One was brought down in the glades of Somerset County by the Bessarabian hunter, John Yutsey, the other, in then Northumberland, now Union County, possibly in the "tight end" of the famous Buffalo valley, by the Pennsylvania German nimrod, Frederick Stamm.

The hide of the Stamm buffalo figured in sales at Mifflinburg, 1917, and Boalsburg, 1941; its present whereabouts could likely be located, if the State cared to buy it for the grim old Godcharles-Hoban museum, Harrisburg. The Northumberland County bison was said to be a huge bull; a medium-sized cow was driven out of Buffalo valley, into the tight end, two years earlier, 1808, by Jacob Weikert, as related by his grandson Jonas J. Barnet, in 1919. As is well known a buffalo was killed in Maclay's swamp, now Maclay Street, in Harrisburg, in 1792, having been driven by dogs off the Blue Mountain.

The bison shot by Col. John Kelly, at Buffalo crossroads, in 1799, and the "last herd" crusted and wiped out at Booney's Hole, near Boonstiel's Sink, in the romantic White Mountains, Union County, 1800, are known to every school-child in the commonwealth. Also, the remains of the ancient buffalo wallows, near Buffalo Creek, in Buffalo valley. In gathering these priceless materials, the names of a former Altoona boy, the gifted J. Herbert Walker, and Dr. T. Kenneth Wood of Muncy, Lycoming County, have placed Pennsylvania permanently in their debt.

The furthest east of the lordly bison was at the Buffalo Springs, Lebanon County, where from time immemorial the bison came to sport, fight, bathe, and wallow in its black, mucky margins. Old residents of Heidelberg and Lebanon townships have said that when many years ago the Buffalo Springs which constitute the uttermost source of Hammer Creek, named for the Hammers of Baron Harry W. Stiegel's iron forges along it, were dugout, dredged, and walled, innumerable buffalo bones were found; instead of taking them to some museum, they were pounded up with sledge-hammers, and dumped on the nearby fields.

It is said arrows and lead balls were found among the muck of the springs. The Indians hunted these bison sparingly for their hides, the undersides of which they painted with figures and hung on the walls of their long, or ceremonial houses. The German Jews who came to what is now Schaefferstown, four miles east of the Buffalo Springs, to reconvert the Indians to Judaism, believing them to be of the lost 10 tribes of Israel (the same belief existed in Japan and West Africa) failing as proselyters became avid hide hunters, so much so that when in 1730 the Penn heirs ordered the mission ended, as beyond the scope of the British toleration act, the bison were retiring to the Blue Mountains, 10 to 15 miles to the northwest. A few were still there over 60 years later, as there are legends of other bison killed in the Kittochtinnies besides the one slaughtered in Harrisburg, 1792.



Photo by Seth Gordon (1922)
A portion of the famous General Trexler Buffalo herd.

In Dr. Branch's fine book, he gives as his final chapter the collecting and sale of buffalo bones, on the western prairies as late as 1888, when the noted writer Julian Ralph described the industry while traveling west on the Canadian Pacific railroad; four years later, in 1892, Richard Harding Davis who immortalized the Pennsylvania Dutch playboys in "Van Bibber," mentions seeing buffalo bones at way-stations along the Northern Pacific R. R., in his book "The West From a Car Window."

Likewise in Pennsylvania the cracking of the buffalo bones scraped up at Buffalo Springs, formed the final phase of the famous creature in our commonwealth. It is also remarkable that several hides of Pennsylvania bison still exist; in addition to the one sold at Boalsburg, Centre County, in 1941, a coat made of the hides of two bisons, shot in the Blue Mountains, in Cumberland County in 1774, and worn as a storm coat during the Revolution, is preserved by the soldier-slayer's descendant's at McAllisterville, Juniata County.

Several sets of Pennsylvania bison horns, have, it is said, been located by Captain J. G. W. Dillin, author of the standard work on the so-called Kentucky rifles. The skull of Colonel Kelly's bison is said to have hung on a pitch pine tree near the old Buffalo Cross-Roads church, within the memory of folks now living. Col. James Smith, called

(Continued on page 21)

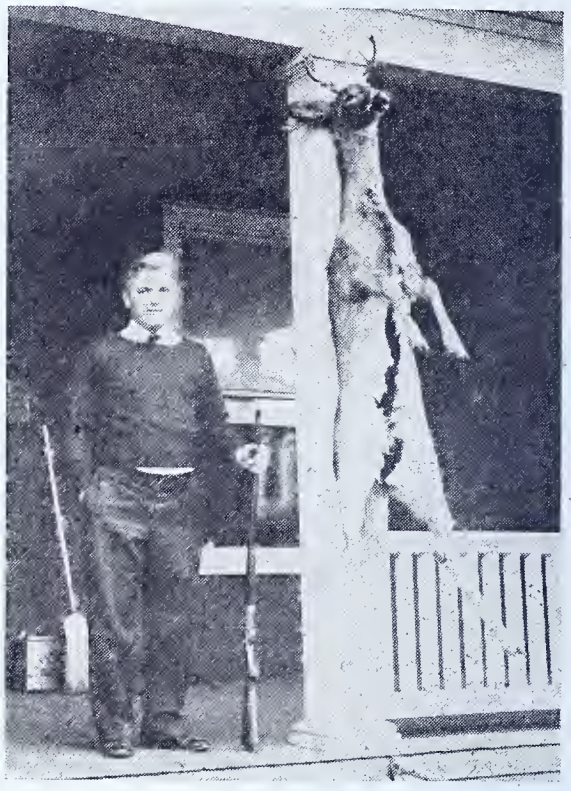


Photo by Seth Gordon (1922)
This bull, about a 2000 pounder, was the second oldest calf born at the Trexler Park at Allentown.

SHOTS FROM THE RE













IT BIG GAME SEASON













Army's Lawes Cooperates With Game Laws

Editor's Note: The example set by the Letterkenny Ordnance Depot in Franklin County, through the whole-hearted cooperation of Commanding General H. J. Lawes, in permitting the live trapping and transfer of wild game from the area bespeaks only too well the conservation mindedness of many of those in authority in the armed forces. While the area is not open to public hunting, a small portion thereof is available to members of the Depot, but only under state game regulations, including the required resident hunters license. Other army posts within the Commonwealth which may likewise be interested in a similar conservation project should make their wishes known to the Game Commission, Harrisburg, Pa.



District Game Protector W. W. Britton, Chambersburg, is shown at left, with Sam C. Houston, president of the Chambersburg Rod and Gun Club, with the first rabbit taken from traps set at Letterkenny Ordnance Depot.

By S. C. Houston

THE huge area devoted to the Letterkenny Ordance Depot in Franklin County, Pennsylvania, covers approximately 20,000 acres of valley and rising ground, bounded in part by the great North Mountain which forms the western edge of the beautiful Cumberland valley.

Letterkenny is a field service establishment under the Office of the Chief of Ordnance in the Army Service Forces of the War Department. The A.S.F. is one of the three major divisions of the Army, the others being the A.G.F. (Army Ground Forces) and the A.A.F. (Army Air Forces).

The Ordnance Department in the A.S.F. is that branch of the Army that specializes in guns, ammunition, tanks—an exhaustive list of ordnance supplies to back up our forces overseas.

With the whole-hearted support of Brig. Gen. H. J. Lawes, Commanding General of Letterkenny, this great area is fulfilling a secondary service of supply, close to the hearts of Pennsylvania sportsmen.

It is significant that the A.S.F. was formerly known as the S.O.S.—Services of Supply. Now, with a dual interpretation of those initials, S.O.S. readily becomes an apt slogan for that secondary service of supply at Letterkenny, "Save Our Sport," since from the abundant acres at Letterkenny will be drawn a supply of wild game—birds, rabbits and furbearers, for restocking purposes in areas in which additional breeding stock or new blood is desirable.

Conservation—the prudent use of our natural resources—has long been a subject of interest to the true sportsman. With this in mind, and with a consciousness of the quantities of game on the 250 farms originally included in this tremendous ordnance project, it has been my privilege to arrange a conference between General Lawes, and officials of the Pennsylvania Game Commission. Although he is not a sporting man in the general sense of the word, General Lawes coordinates, through training and habit, a keenly-developed sense of all types of conservation—of men, of machines, and of materials.

Thus, he was able to project immediate utility in the proper use and care of game found on the great ordnance acres under his supervision. Because of certain restricted operations, and of safety measures, these lands could not be made available to public hunting. But during the conference, a plan evolved whereby it is possible for authorized agents of the Game Commission

(Continued on page 21)



Left to right: D. H. Franklin, Game Protector Land Management, Upper Strasburg, District Game Protector George D. Bretz, Shippensburg, and District Game Protector W. W. Britton, Chambersburg, with rabbit traps supplied by the Pennsylvania Game Commission for the trapping project at Letterkenny Ordnance Depot.

A Better Mousetrap

Editor's Note: The Author of this and subsequent little articles which will appear later, writes a regular column on nature study for the Valley Daily News, Tarentum. He is also a naturalist-lecturer and spends considerable time amassing color photographs to illustrate his various excursions in Nature's wonderland. Your editor recently heard him present his illustrated talk on "Teeming Wildlife," and highly recommends it to any organization that is looking for something refreshing and different.

By Hal H. Harrison

It is not often possible to give positive proof of the economic value of certain birds. Many times we must accept the stomach analysis made by a scientist in order to arrive at the conclusion that this bird or that bird is a destroyer of harmful insects or an eater of weed seeds.

Thus, it is with great delight that I am able today to offer you a story that definitely places a bird on the valuable list.....and without a shadow of a doubt.

The bird is a Barn Owl, often called a Monkey-faced Owl. The nickname is appropriate, for the owl's heart-shaped face does resemble the face of a monkey. The story has its beginning over a year ago when John D. Meyer, of Lane avenue, phoned me to say that he was sure that a Barn Owl had a den in a huge cliff near Freeport.

I checked this spot repeatedly, but it was not until April 18 last year that I finally saw the owl sitting on a ledge in front of its cave. I saw it several times after that.

One afternoon last week, I passed the place and stopped to see if the owl still lived there. He did! In fact, Mrs. Barn Owl was also visible just inside the entrance to the den.

A thought suddenly struck me that since the owls had inhabited this cave for so long, the ground at the base of the cliff below the cave should be covered with pellets. So I climbed up to see. There were hundreds of them. Some were fresh; others were smashed by the wind and the rain.

But let me explain what an owl pellet really is.

Owls swallow their prey without mastication. The digestion of food takes place in the stomach. In the case of Barn Owls particularly, the main bill of fare is rats and mice. They are swallowed whole or in a few torn up pieces. The stomach takes the meat for digestion and leaves the fur and the bones which are later disgorged by the bird in the form of little balls or pellets. These pellets are nothing more than hard lumps of fur with bones, including skulls, mixed in the mass.

A scientist could take everyone of these pellets and analyze them to show how many hundreds of field mice, house mice, moles, shrews, rats, deer mice, etc., the owls had eaten. For the casual



Photo by the Author

Examination of Barn Owl pellets disgorged by the birds show them to be composed of fur and clean bones, the remains of rodent victims.

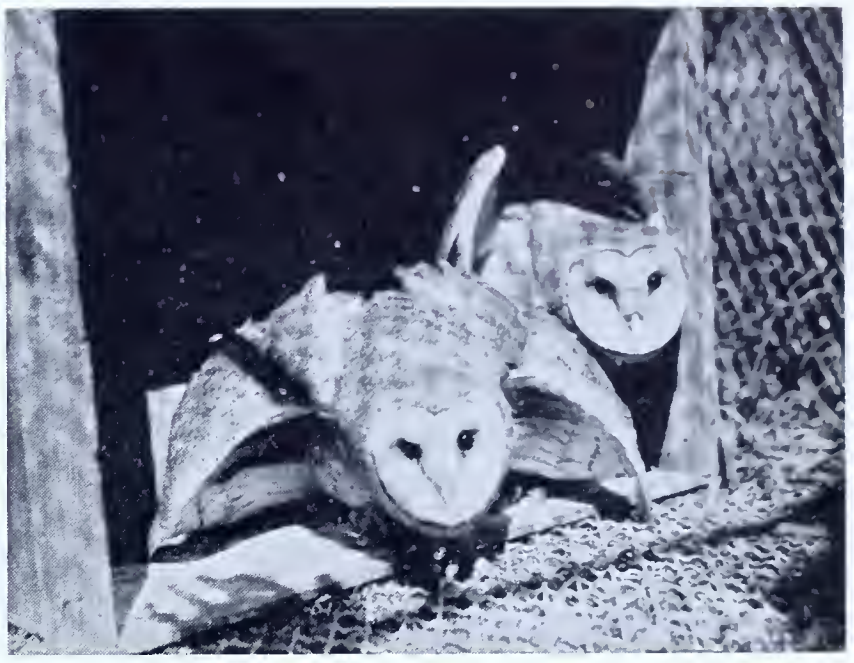


Photo by W. L. R. Drake

Monkey-faced Owls in captivity.

observer looking at these pellets, it is obvious that hundreds, possibly thousands, of rodents in that area have been destroyed by these owls.

Very near the cliff is a farmhouse. I paid the farmer and his wife a visit and learned that they had moved there just two years ago. And without mentioning the owls at all, I discovered that the farm and all the buildings were overrun with rats and mice when the family arrived.

"Why it was so bad," the wife told me, "that a loaf of bread that I left out one night was entirely eaten and only the wax paper left the next morning."

"Are there many mice here now?" I asked.

"Haven't seen one for months," the man answered.

"And how do you account for that?" I queried.

"Well, to tell you the truth," he stated, "we always figured the skunks got rid of them for us."

Then I told them what eaten their mice. They never knew that the owls lived nearby. They had never seen them. I inquired if they had never heard a blood-curdling scream during the night, for that is the cry of the Barn Owl.

"I'll bet that's what I heard when I was sitting on the porch one evening last summer. One night I heard an awful scream and I ran inside and locked the doors," the woman told me. I assured her that she had heard the call of the Barn Owl and that if she hears it again this spring to pay no attention to it.

"When all the rats and mice are gone around here, food will be scarce for the owls and they may have to go somewhere else," I told the people.

"Well, I sure hope they don't leave," the man offered, "because we are not bothered at all with mice now."

And so the story ends. But it shows conclusively that this pair of owls has done a wonderful service for the farmer.

Foolish superstition has followed the owl since the beginning of time. Some people who should know better still believe that owls are omens of bad luck. And isn't it strange that exactly the opposite is true?

The Barn Owl is not as common as our little Screech Owl. It is strictly nocturnal in its feeding and remains under cover throughout the day. Nesting sites include barns, vacant buildings, church belfries, hollow trees, burrows and caves.

Mr. Todd in "Birds of Western Pennsylvania" says: "It has been estimated that a single pair of barn owls with their brood of young would consume more than 150 rats and mice in a single day. The amount of good that they do in the aggregate is incalculable, and the amount of harm is inconsiderable. They should be protected and encouraged in every way, to the end that their numbers may be increased throughout our territory."

Pennsylvania's 1942 Game Harvest - -

(Continued from page 5)

	1937	1938	1939	1940	1941	1942
Total Licenses Issued	606,618	661,730	667,901	679,168	686,356	648,760
Number of Game-Kill Reports Filed Voluntarily	418,566 (69%)	527,075 (80%)	589,734 (88.3%)	609,778 (89.7%)	580,974 (84.6%)	525,631 (81%)
Number of Special Reminder Notices Mailed	189,064 (31%)	132,454 (20%)	68,780 (10.3%)	70,966 (10.3%)	102,827 (15%)	123,003 (19%)
Percent of Game-Kill Reports Included in Final Tabulation	93%	98%	98½%	98½%	97½%	96.4%

report firmly resolves not to let it happen again, the need for mailing as many of these notices could be materially reduced. This would accomplish two desirable objectives: (a) substantial savings for clerical assistance and postage, and (b) it would be possible to complete the tabulation and publish the official game kill report at an earlier date.

Advisable to Continue Plan

The results have been so satisfactory during these six years that the Commission believes the filing and full tabulation of the reports should be continued. The fact of the matter is, the Commission does not have discretionary power in the matter of filing reports under the provisions of the present Game Law, and it is clearly the intent of the Legislature that they be tabulated.

If the law on this subject were modified, or repealed, and anyone of a number of known short cuts were adopted to arrive at the annual game kill, it is believed that the number of reports filed would soon dwindle to a new low level. This would not only make it impossible to obtain a complete report on the annual game harvest, but it would open up the way for the same kind of widespread cheating in the issuance of licenses that prevailed prior to 1937. It is readily admitted that the adoption of a short cut would result in cash savings. However, such savings—perhaps more—would have to be expended to correct the evils which invariably would return with the old system. Then, too, there is the probability that there would be a reduction in the revenue from the sale of non-resident licenses.



Here's one bruin that failed to elude the hunter, who, in this case, is Dana B. Baer of Honesdale.

1943 Reports in Hopper

At the time the February issue of the PENNSYLVANIA GAME NEWS is off the press thousands of the 1943 Game-Kill Reports will be in the tabulating hopper, with the balance to follow as fast as possible. However, it may be as late as March 15 before the Commission will know the license numbers of the hunters who filed their reports as required by law, and also the license numbers of those who neglected to file their reports. It is hoped that your license number will show up in the majority group of hunters who always make it a point to file their reports voluntarily, rather than in the minority group of those who negligently fail to file their reports.

"A hunter related the following experience in Forest County. He climbed a tree to watch for deer and when ready to come down decided to jump the short distance of 15 feet. When he did a stub caught the back of his coat and hung him up. Two hunters were passing and he yelled to them for assistance but they were watching for deer and could not see a 200 lb. 6 ft. 6 in. man hanging in a tree. He finally got his coat unbuttoned and fell to the ground. For proof he showed his sweater which was ripped from top to bottom. He is through climbing trees."—R. P. Schmid, Game Protector F-7.

PENNSYLVANIA'S RECORDED GAME-KILL FOR SIX-YEAR PERIOD (1937-42)

COMPARED WITH

AVERAGE ANNUAL KILL FOR PREVIOUS SIX-YEAR PERIOD (1931-36)

(Based on Complete Tabulations of Hunters' Reports (1937-42)

Species	Season of 1937[1]	Season of 1938[2]	Season of 1939[3]	Season of 1940[3]	Season of 1941[4]	Season of 1942[5]	Average Annual Kill For Period (A)	Average Annual Kill Previous Six Years (1931-1936)
Deer, Legal Antlered	39,347	.....	49,106	40,995	19,271	30,860	.....	.....
Deer, Legal Antlerless	.....	171,662	14,581	145,580	(Closed)	(Closed)	.....	.....
Total Deer	39,347	171,662	63,687	186,575	19,271	30,860	85,217	40,824
Bears	537	384	535	524	593	149	454	412
Rabbits	3,074,820	4,263,759	3,804,701	3,266,537	3,575,104	3,504,390	3,581,552	2,292,045
Hares, (Snowshoes)	2,420	2,120	(Closed)	(Closed)	(Closed)	6,019	3,520	19,186
Hungarian Partridges	.....	.....	.....	.....	.....	485	485	.....
Squirrels	1,056,408	1,106,914	945,471	1,044,784	936,213	1,201,979	1,048,626	786,377
Raccoons	29,842	36,046	38,452	40,802	44,145	32,664	36,992	31,181
Wild Turkeys	6,619	6,766	5,191	5,218	3,911	3,938	5,274	3,736
Ruffed Grouse	177,683	224,479	237,245	221,474	187,990	237,408	214,380	148,356
Ringneck Pheasants	371,526	517,280	471,539	459,071	537,990	463,794	470,200	271,871
Quail	105,795	109,891	111,674	74,808	70,929	68,409	90,251	142,914
Woodcocks	57,244	50,085	40,816	29,087	31,328	27,729	39,381	30,343
Wilson's Snipe, Gallinules and Rails	12,657	8,717	6,294	5,091	4,162	2,671*	6,599	13,510
Grackles (Blackbirds)	78,543	78,613	47,449	43,204	46,566	38,888	55,544	108,837
Wild Waterfowl	16,758	21,329	38,474	53,060	55,836	64,454	41,652	23,712
Woodchucks	(No Record)	145,528	178,691	190,735	196,729	184,921	179,321	(No Record)
Total Number of Pieces	5,030,199	6,743,573	5,990,219	5,619,970	5,710,767	5,868,758	5,859,448	3,913,304
Reduced to Tons Equals	6,402	12,762	8,897	13,277	6,645	7,100	9,180	5,515

[1] Based upon reports from 93% of the licensed hunters; [2] reports from 98%; [3] reports from 98½%; [4] reports from 97½%; [5] reports from 96.4%; (A) Where certain species were not legal during the entire period the average was obtained by using the number of years such species were taken.
* Does not include Snipe, Season Closed.

Army's Lawes Cooperates With Game Laws

(Continued from page 18)

to go onto the reservation for the purpose of trapping live rabbits, birds, and other game, and moving them as additional breeding stock. Predators may also be so removed to sections in which they can no longer be harmful to the desirable species of small game.

There are, on the depot, many acres of marginal land, otherwise undeveloped, which may be used by the Game Commission for experimental food plantings and observation purposes. This land, which is isolated from public trespass, forms a game paradise in which to nest, and rear young, and reach maturity in a perfectly natural state. It gives the technicians of the Commission areas in which to observe many possible experiments in management. And it will eventually give the sportsmen of Pennsylvania more breeding stock grown in the wild and adjusted to our climate.

The reservation is, of course, closed to all civilian hunting. However, one section of several hundred acres has been set aside for hunting by officers and military personnel. Men availing themselves of this privilege must, by command of General Lawes, observe all of the game laws of the State of Pennsylvania, including the possession of a Pennsylvania hunting license.

The whole project as a concession to the sportsmen of Pennsylvania is especially notable in that it is in operation right now. And it is probable that the use of the area. with the advent of peace, can be more extensive than is possible under the limitations of war. Now while at war, and later in peace, the Army Service Forces will function for more and better ordnance, and for more and better game.

The Hunting of the Buffalo

(Continued from page 15)

by historian Carlson "The First Rebel" describes killing bison in various parts of Pennsylvania, and in eastern Ohio during the Revolution, while Heckewelder's buffalo hunts in Ohio, just beyond the Pennsylvania border, some years later are classic, as are Col. Christ Gist's in Western Pennsylvania and Ohio, as recorded in his "journal."

The English traveller Thomas Ashe, gives a graphic picture of the colossal slaughter of bison in northwestern Pennsylvania, and at the Onondaga salt springs, in New York, during the post-revolutionary period. Dr. J. D. Schoepf, a former surgeon of the Hessians and Hiram Hollister, also tells of the end of the Pennsylvania bison, in their books "Travels in the Confederation, 1783," and "History of the Lackawanna Valley," respectively.

Dr. Branch tells of some Indians who long after the bison had disappeared, still went out in the hunting season. Descendants of Michael Quigley, central Pennsylvania's dearly loved pioneer, and mighty buffalo hunter, say that when the 'simmons and paw-paws were ripe along the Bald Eagle mountains, he would bring out his season buffalo gun, old "pitiless," and start for the buffalo path, 15 years after the last bison had trod the old migration route. This path used to be pointed out by the late Jacob W. Zimmerman. Also he showed the immense chestnut tree where they had rubbed off the bark on one side. Quigley, the aged "Piemontesser" hoped to the last for the return of the "vanished millions."

Our Strength Is In The Earth - - -

(Continued from page 11)

And so life still has its beginning and still draws its nourishment from the advanced stages of this material which we call soil, using every bit of the material available for living to the utmost. Growth doesn't use it up. Growth merely converts it into a higher form and then surrenders it into nature's storehouse. If a lichen's dead body is left in the crevice of a rock the next lichen living there may grow twice as tall. Civilization must never neglect its contribution if it continues to fit into nature's scheme.

Man has frequently refereed the game according to different rules. The rules may be drawn to favor some particular plant or group of animals as in the various economies we have set, cotton, corn, etc. Or rules may favor separated groups of people who hardly know or care that the land exists as in our industry dominated nation. We set laws and the flow of life giving wealth to disfavor agriculture in the national share of good things. We forget it isn't just a group of citizens we are taking something from. We are taking it ultimately from the land. The farmer and our agricultural institutions have developed many efficiencies to help bolster the weakened farm dollar but in spite of all these we have set so unfavorable a pattern for agriculture in our national plan that pressure continues to increase upon the land.

The land, of course, has needs even more fundamental than that of any home group. And so through ignorance man may cut off unwittingly, before it is born, all the offspring of life. Wars are tragic, but no less tragic is the still greater, more relentless war man has waged even against the mother earth that gave him birth and nourishes him all his days.

Man must study the laws of a richer life and moor his economy in the bedrock of nature's inexhaustible storehouse. If man has the ability to take from earth faster than any other living thing he likewise has ability to put back or contribute faster than any rooted plant or dumb animal. If a forest of trees can shower down a ton of leaves in the fall, man can grow and plow under 15 tons of leguminous cover. Whereas a small plant can give back to mother earth only its little five percent of mineral, man can mine nature's great reserves of lime, phosphates and other essential minerals and incorporate great tonnages of these precious elements into the storehouse of the soil. Man likewise can breed new vigor and efficiency into plants and animals and through increased efficiency lessen the burden upon land, giving it a chance to rest and be refreshed. All of man's ingenuity, all of the contributions of science must primarily be related to the land, for out of the land comes our life and our strength for living.



This farmer is putting clover back into topsoil. "All flesh is grass." Grass is energy.



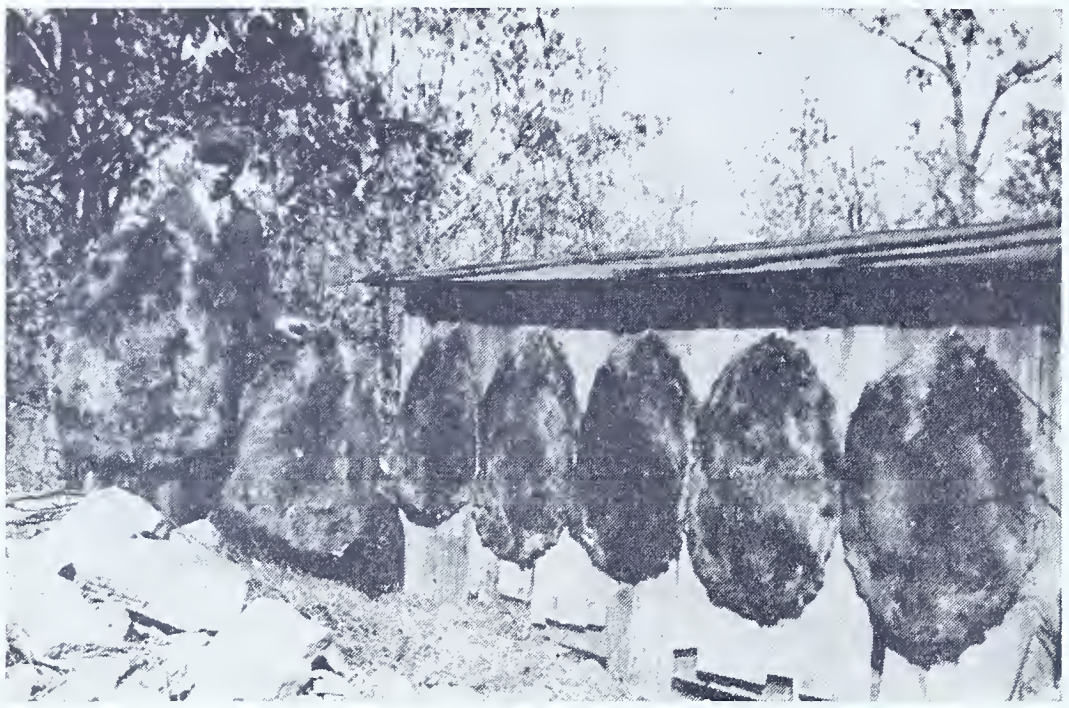
Food is no better than the soil on which it grew. This is good food, rich in minerals. Many foods raised on depleted soil are little better than animated air and water.



When soil moves, men move. When soil falls, life fails.

In Pursuit of Beavers - - - - -

(Continued from page 13)



Seven of the eight beavers that we had taken were adult animals.

frozen lunch that we brought with us was hauled out along with the thermos bottle for a little refreshment.

Several hours had elapsed in fact it was mid-afternoon and no other trapper had shown up yet. The cold had abated considerably and clouds were gathering in the sky as we treaded campward. Deer tracks were evident here and there, and we observed several of the timid white-tails as they stared at us from the sloping hillsides. When we got back to the cabin I started in on the wood supply. We had to have enough for a few days anyhow. There was lots of it around and it was the only kind of fuel available for use about the place. The wood fire made the camp warm, cheerful and inviting, and that evening—after packing away a double helping of juicy pork chops, spuds that were smothered with onions, and beans and piping hot coffee—Joe and I settled down comfortably in a pair of rustic armchairs that were drawn up close to the stove, reclined and stretched our weary legs. As we looked at the flickering embers of the scintillating flame that radiated comfort we talked at length about beavers and trappers and trapping in general.

We both loved the game of trapping, it was so fascinating, so dear to us and yet a lot of people just couldn't and can't see it. Trappers are looked down upon a great deal anyhow because it just seems they aren't understood right. Like some of our old school chums we, too, had the privilege and the opportunity to go to higher schools to acquire an education that would give us a more refined and easy life, but the call of the woods was irresistible and we were too absorbed in wildlife; the environment that we grew up in was so close to us that the thought of an advanced schooling was negligible. As we sat there and pondered on the ways of the life of a trapper a sudden patter of rain drops on the roof awakened us out of the deep, dreamy meditation—"Gosh, it's rainin'!" Joe exclaimed.

Sure enough, it was. We got up to survey the external atmosphere and noted that it was going to be a wet, rainy night. "It'll be a swell night for 'em to run." Joe remarked. Of course, I agreed with that.

A good sleep was necessary in order to make us fit for the next day's work and we hit the hay. Up in the high bunk, next to the ceiling, it was plenty warm and I found it difficult to fall into a state of stupor while Joe, apparently undisturbed by the stuffy heat, started to snore and saw logs almost as soon as he had rolled into the bed. His snoring added to my discomfort and, when that quieted down, a family of playful mice went on a rampage to further distract from my sleep. Despite the rummage down below I must have dozed off because the next thing I knew it was time to get up—the Big Ben was ringing fitfully.

"Get up Jig!" I bellowed "Come on, come on, get up!"

And who wouldn't? Expectancy hastened to stir us up and we were ready in pretty short order.

In the dim, misty light that was overcast with dark, threatening rain clouds we proceeded to march down to Shield's Dam, ignoring the sets that were close by the camp because we could look at them later when it lighted up more. Threading through that slippery snow was as difficult as ever and, after a long and dragged hike, we reached the big water reservoir. Down below the bulky framework of wood I detected the moving outline of a trapped animal making a futile attempt to escape from the powerful trap that gripped like a sturdy vise. Joe and I crawled down the slippery spillway and observed the reactions of the heavy, brown fur-bearer as it chattered its teeth defiantly.

"Well, here's number one, and a big fellow at that," I remarked, as Joe nodded with approval and gave it the once-over rather carefully. I aimed a twenty-two between the eyes of the furry creature, pulled on the trigger—ping!—and the animal toppled over in the swirling waters that thundered deafeningly at the bottom of the old splash dam.

We reset the traps and proceeded to look at others that were placed nearby but there was nothing in them, one had been sprung.

Then we ploughed on for a mile up along the watercourse to the Wolf Rocks section. While Joe had stopped to rest momentarily along the way I got ahead of him and came within view of one of the beaver dams just as another one of the big, brown animals slapped on the water with its tail and dived.

"Why," I thought "that's rather queer?" There was a drowning set there. Ah! soon enough I saw what had happened. The heavy stone that was to act as a drowning device had broken loose, and old man beaver was at liberty to move at will about the pond with only a heavy water-soaked clog attached to the trap frustrating the chance of full escape. "Hurry up Jig, if you want to see something!" I bellowed for him to shake a leg. Every now and then the animal would come to the surface for a breath of air and, after watching it closely for several minutes, Joe put the twenty-two to his shoulder, released the hammer—ping!—a pool of blood spread out over the surface of the muddy, disturbed water and we lifted another flat-tail into the packbasket.

A little further up the stream all appeared to be quiet and peaceful, but as we approached closer to look at a trap that had guarded a passage at the middle of the breast of the second dam it was missing, and down deep within the clear, clean mountain water we detected our third beaver—drowned, and flattened out like a pancake.

With the weather moderating still more, several changes had to be made in our sets to conform with the rise of the swelling waters. Then we returned to the camp and inspected the traps that were in the immediate vicinity. There was nothing in them.

The job of skinning the beavers was no easy task but when, finally, we got that done and the fleshing and the stretching, we were ready to call it another day. No competitors had come into our territory as yet, and we thought that the pleasure of trapping the brown, furry inhabitants of Corbin and Six Mile was going to be all our own. Yeh, that's what we thought! And we hit the bed that night, tried and all fagged out.

(To be concluded next month)

The Beaver Season

The ninth beaver season in Pennsylvania will get under way on February 15 and close February 29. It is confined to 22 counties and only traps may be used in catching the much-sought-after animals. Counties open include Bradford, Butler, Cameron, Carbon, Columbia, Centre, Clearfield, Elk, Jefferson, Lackawanna, Lycoming, Monroe, Montour, Northumberland, Pike, Snyder, Sullivan, Susquehanna, Tioga, Union, Wayne and Wyoming. Non-residents may not trap beavers.

One person may set, tend or operate 10 traps only and trappers are required to keep tags above ice or waterline to facilitate identification without disturbing the traps.

The pelts of beavers must be presented to a Game Protector for tagging within 10 days after the close of the season. It is best to have the pelts tagged by the Game Protector of the District in which the animals were taken.

You Can Kill 'Em With Kindness - - -

(Continued from page 9)

be found in almost every section of the United States, although it is by no means one of the worst. Every year, deer and elk by the hundred thousand die of malnutrition in these slums.

"I don't believe that," an experienced hunter said to us. "I go hunting every Fall, but I never see any carcasses lying around. The deer and elk are all fat and well-fed, and very much alive."

Of course they are! Those that survived the previous winter have had six months to recuperate and fatten up, on the luxurious summer range. They are still there when the hunter goes into the woods. No wonder he doesn't see any carcasses lying around! The carcasses are on the wintering grounds, and they have been so torn and scattered by coyotes that the average hunter would not recognize the remains, even if he were looking straight at them.

These slum conditions on the winter ranges are not general—yet. They are scattered, local and specific. But they will develop into a general condition if not controlled.

Colorado alone has at least a dozen areas where more hunters are urgently needed to harvest the annual crop of deer and elk, and almost a dozen spots where duck concentrations have grown too large. Rabbits and pheasants are a problem over large areas in the State.

Hunters, intelligently directed by their State Game Commissions, can perform a genuine service in harvesting a valuable and much-needed crop of meat and maintaining the proper balance between the game population and its food supply.

The 1939-41 Biennial Report of the Colorado Game and Fish Department says, "Present elk population of the State is 18,000-20,000. It would require an annual kill of five or six thousand to keep the numbers within bounds. The licensed kill has never reached 3,000.

"The mule deer population, which reached an all-time low of 16,000 in 1913, has increased to 248,000 head. Hunters would have to kill between fifty and sixty thousand deer annually, of which at least half would have to be does, to hold the herds in check. The largest estimate ever made for a season's kill was 20,000 head. The State has never sold more than half the necessary number of licenses to hold its big game population in check." Easterners will find extra good hunting in Colorado and other Western States.

During the last century, unrestricted market hunting all but wiped out the Nation's wild game. Shortly after 1900, Americans realized that a drastic conservation program would have to be put into effect. Many species—though not all—have responded to this program in a way that has astonished game managers themselves.

Big game population of the United States has doubled every ten years since 1908, rising from a low of about 200,000 in that year, to approximately six and a half million in 1943, of which about six million are deer, 170,000 elk and 200,000 antelope. (Only a few years ago, antelope were thought to be practically extinct!)

Dr. H. L. Shantz, Chief of Game Management of the National Forests, estimates that



Deer which starved to death on their winter range.

since 1927, hunters have harvested only about one-third of the Nation's annual deer crop, two-thirds of the elk crop. Starvation and predators harvest the rest.

Under favorable conditions, a deer herd will double in three years; an elk herd in four to five. The annual deer and elk crop of the National Forests is about 700,000 animals. Last year, hunters harvested 230,000. Approximately 270,000 died of starvation and destruction— and still the deer and elk population of the National Forests increased by 200,000!

What are all these animals going to eat? Already the most overcrowded ranges are literally "scorched earth." As the deer and elk increase in numbers year by year, the dying game ranges produce less and less forage for them.

Destruction of the range itself is far more serious than starvation of one season's crop of deer and elk. Given plenty of food, the herds will rapidly build up again. But after the tragic death by starvation of most of the Kaibab Forest deer herd in the 'twenties, the range was so depleted that it would not again support a normal complement of game for fifteen years. Many of the best forage plants were permanently killed out. This is the classic example of what an uncontrolled game surplus can do. Readers who still think there cannot possibly be too many deer or elk anywhere are invited to inspect the Forest Service records on the Kaibab.

Twenty years ago there were perhaps half a dozen overcrowded game ranges; today there are hundreds. Even in the East, despite the heavy hunting pressure, there are too many deer in spots. In the Pisgah National Forest of North Carolina, "deer population," says the Forest Service, "should be cut down somewhat." In Pennsylvania, because of the wartime shortage of hunters, local deer surpluses are becoming a serious problem for the first time in years. Conditions are similar in the Southern Tier counties of New York, and even in those counties adjoining Metropolitan New York itself, while in certain wintering grounds of the Adirondacks, the starvation loss of deer has run from seven to 21 animals per square mile annually during the last four years.

But the East is a mere curtain-raiser for the Lake States and the West.

Because the Michigan Legislature forbids the killing of does, the Game Department of this State has never been able to keep the deer population within bounds. The winter loss from starvation is appalling. And herein lies a moral for meddling legislatures. Since 1928, Pennsylvania has had eleven doe seasons, two for does only. With one-fifth less deer range than Michigan and a herd about the same size, Pennsylvania has harvested in the last eleven years almost 300,000 more deer than Michigan. Thirty million pounds of meat as a bonus for good management! The range is in infinitely better condition, and so are the deer.

The Forest Service states that deer are dying of malnutrition in alarming numbers in 38 national forests in sixteen States, elk in 24 forests in six States.

Last Spring, in the Fishlake Forest of Utah, rangers found 42 dead deer per square mile on 25% of the range. During the severe winter of 1939, the loss was 92 animals—about 10,000 pounds of meat, dressed!—per square mile. The winter carrying capacity of this forest is 30,000 deer. The present deer population is just twice that. Fishlake bucks average almost one-third less in weight than bucks from nearby Ashley Forest, where there is forage enough.

A few years ago, in Malheur National Forest, in eastern Oregon, 1,200 dead fawns were counted on six square miles of range. For years, public sentiment prevented any reduction of this herd. "The deer *can't* be dying of starvation," Oregonians insisted. "There's plenty of grass." Even today, in spite of repeated efforts to whittle down the herd, this Forest is grossly overpopulated.

In Modoc National Forest, northeastern California, while the annual deer kill averaged about 5% from 1921 to 1939, deer herds

increased 800%. Modoc deer are starving by thousands.

One of the worst obstacles to good game management is the absolute, inviolate type of refuge, where game authorities are prohibited from exercising any control over mounting surpluses. The United States has hundreds of refuges of this type. Almost every State and National park and monument is one.

The Jackson Hole National Monument, recently created by Presidential proclamation against the wishes of the citizens of Wyoming, adds 221,000 acres to an inviolate elk refuge which has been added to four times in the past and still has an annual winter malnutrition of 600 to 1,000 among artificially fed elk. Adding 221,000 acres more to the refuge will actually increase the winter loss. Part of the herd used to winter on non-refuge lands, where hunters could get them. The refuge now includes these lands, and it is absolutely forbidden to hunt any of these elk at any time. Does Secretary Ickes expect the elk to practice birth control? It is to be hoped that the current agitation to permit hunting in the confines of the Monument will be successful.

The history of the *northern* Yellowstone Park elk herd is illuminating. So fast did these elk increase after the Park was set aside as a refuge, that by 1934 there were 13,500 head—twice the carrying capacity of the winter range. The best forage plants for elk were eaten to the verge of extinction. Weeds and erosion took their place. Smaller, less tenacious animals were literally eaten out of food and home. "All over the range," says the Park Service, "one saw the pitiful spectacle of sick, undernourished dying animals." The whitetail deer was exterminated, the bighorn herd reduced to 125 head. The big, tough, aggressive elk will crowd out everything else before he starves to death.

In 1934, despite local protests, Park authorities decided that 24,000 elk ought to be harvested during the next eight years—outside the Park boundaries, of course! Because of unfavorable weather conditions, only 16,682 were actually harvested. The kill barely took off the annual increase! In the Fall of 1942, the herd *still* contained 13,500 emaciated, starving animals, and the range was depleted worse than ever.

But last Fall, heavy snows forced the elk down out of the Park to low-altitude winter range early in the season. Cooperating with the Park Service, the Montana Game Commission declared an open season of indefinite length. Spurred by the meat shortage, hunters swarmed into the fields. By January 14th, when the season was closed, 7,230 elk had been harvested. Plenty of people lambasted the Park Service for the "senseless slaughter", but it was the only way to save the range.

The Denver Mountain Parks elk herd in Colorado has stripped even its *summer* range almost as bare as Mother Hubbard's cupboard. Started in 1915 with 20 cows and five bulls, this herd numbered 1,500 by 1941. "Elk have completely eliminated mountain mahogany from the slopes of Mt. Evans," says Dr. Hagie, of the Colorado Game Department. "Even the willow is dying out. Now the elk are foraging in truck gardens. Last year the Department was presented with $10,000 in elk damage claims."

Refuge game herds like these can be a major pain-in-the-pasture to neighboring ranchers. One rancher near the Denver Mountain Parks counted 845 elk on his place at one time, stripping the forage and tearing down haystacks.

The competition for food between game and domestic stock is greatly misunderstood and exaggerated by most people. Although elk compete with cattle for grass to some extent, under normal conditions and on a properly stocked range there is no competition at all between cattle and deer, and comparatively little between sheep and deer. Cattle eat grass, deer eat browse, while sheep prefer weeds and broad-leafed herbs. This is significant, because, of the six and a half million game animals in the United States, six million are deer.

The accusation that big livestock interests wish to take over the country's game ranges and livestock ranges are the mistaken assumption that game ranges and livestock ranges are separate and distinct from one another and that all kinds of animals eat the same things.



Photo courtesy Walter M. Thomas.

Back in 1929 when Pennsylvania deer herds had reached astounding proportions it was not unusual for fawns, and even adult deer, to encroach upon farm lands adjacent to their wilderness home and mingle with the livestock. Free lunch.

As a matter of fact, all three types of forage are usually found in varying amounts on the same range, and range experts are coming increasingly to recognize that if you are going to have one kind of animal on a range, you had better have the other kinds, too, in order to maintain a proper balance of vegetation. Every rancher knows that the best way to maintain a good cow range is to keep enough deer to prevent the browse from crowding out the grass. Far from wishing to wipe out game, stock ranchers are usually enthusiastic conservationists.

However, if there are too many animals of any one species on a range, that species exhausts its own type of food and has to rob the others of theirs. If there are too many of all species, they will fight indiscriminately for food.

Under such conditions, destruction of the range, starvation of the herd and squawks from livestock men who see their business being destroyed, are the natural sequence of events. The squawks are understandable! And be it said to the credit of ranchers in general that they do not squawk unless there is good reason for it.

Before the passage of the Taylor Act in 1934, overgrazing by domestic stock all but ruined many Federal range lands. This Act gave the Federal Government authority to compel reduction of excess livestock population and put the livestock industry, on Federal lands, on a permanent sustained-yield basis, whereby the largest possible return is realized on this resource year after year.

But what has happened with game, while this reduction of livestock herds has been going on? In the Modoc National Forest, over a ten-year period in which the number of cattle and horses was reduced by 12,000 and the number of sheep by 46,000, the deer herd *increased* by approximately 30,000. From 1937 to 1939 in the Malheur National Forest, while cattle numbers declined by 11% and sheep by 10%, the deer herd increased by 56%.

This trend is still in effect. Last year, while cattle and sheep use of all National Forests was reduced 488,000 cow months, deer and elk use increased 480,000 cow months. (In the amount of forage consumed, 1 cow = 4 sheep = 4/5 elk = 5 deer.)

It is not surprising if livestock men in some areas are beginning to complain. The meat-rationed public might be forgiven for complaining, too, since in these areas the additional game is forced to rob domestic stock of grass, and game cannot convert grass into meat.

In the national forests as a whole, it is estimated that about 60% of the available forage is normally consumed by domestic stock, while 40% is consumed by game. To maintain both recreational and utility values at the highest possible level, and to preserve the proper balance of flora and fauna, the animal population should be so regulated that each class of forage is consumed by the animal that can utilize it most efficiently.

Skeptics will ask, "What ate the grass before there was any domestic stock?" The answer is: buffalo and elk.

In primitive times, large numbers of predatory animals helped the Indians keep the numbers of both grass-eaters and browse-eaters within bounds. The white man has killed off most of these plunderers,

because harvest by such animals is an economic loss. The number of grass-eaters (domestic stock) is now controlled by an orderly and premeditated removal of the annual crop of these animals for use by man. This system permits every animal to convert the maximum proportion of forage into usuable meat, and the minimum proportion into skin and bones. It also gives forage plants a chance to replenish and reproduce themselves.

Game managers want to do the same thing with browse-eaters (game). Every year, however, starvation is controlling the number of game animals over a larger area.

The main reason for this is that the general public and the legislatures think they know more about game management than the professional wildlife experts themselves.

In most States, the legislature still has the power to determine hunting seasons, bag limits and sex restrictions, and frequently employs this power in ways that make game commissioners wring their hands. In one area, 5,000 deer may need to be removed; in another, none at all. No matter; the legislature issues blanket regulations for the whole State. If the lawmakers try to discriminate, they usually entangle the Game Commission and the hunting public in a mess of bungled legislation that nobody can figure out. Members of the New York Legislature once introduced 150 bills dealing with wildlife management into a single season!

The legislature is usually from one to ten years behind the times. As others have pointed out, game conditions can change almost overnight. Legislatures meet only once in two years—to pass laws based on a public opinion that may already be out of date. Such a body cannot possibly keep itself informed and up-to-date on all the complex, highly technical details of game management.

Neither can the general public, of course. Yet every Tom, Dick and Harriet who has ever heard of a deer believes it is up to him to tell the Game Commission how to manage its affairs. Storms of embittered protest and sweeping accusation greet game managers who try to reduce swollen game herds to a point consistent with their natural food supply. Sentimental ladies insist that starving deer should be fed hay. Drawing-room deer-saviors shriek, "Murder!" if the Game Commission suggests a doe season.

Most of these armchair experts wouldn't recognize an over-browsed game range if it socked them in the nose. The rest hunt deer and elk in the Fall, after they have spent six months on the luxuriant summer range, and return with the conviction that the Game Commission is lying when it says there isn't enough feed. Let them visit some of the wintering grounds in March!

Professional range experts can tell at a glance whether there is any food left on a range. They know what each animal eats—and doesn't eat. Detailed surveys enable them to compute with surprising accuracy the number of each species that can live on a range. More than that, they know to within ten to twenty percent accuracy how many animals *are* living on the range, and whether the population is going up or down.

No one questions the ability of the Grazing Service or the Forest Service to determine the livestock carrying capacity of a range or its right to limit the size of the herds. No one doubts the wisdom of the Sustained Yield Policy as applying to livestock, farm crops, timber and other renewable resources. This is Conservation, in the best sense of the term. Why should it not also apply to game?



Photo by D. L. Batcheler

The sport of big game hunting is attracting more and more members of the so-called weaker sex every year. Hats off to the women folks who have demonstrated only too well their ability to take it in the field as well as in the home and on the assembly line.

If the legislatures and the public will not give their State Game Commissions adequate authority to deal with game surpluses, they will wake up to find that this authority has been largely taken over by the Federal Government. Senate Bill No. 1152, now under consideration, is the first step in this direction. As it now stands, this is not a wholesome bill. However, *something* should be done by *somebody!*

After last century's orgy of unrestricted slaughter, the United States was in the same position as a man who is starting out to raise livestock. His first task is to build up a herd. Having accomplished this, he settles down to a long-term program consisting of two parts: (1) Protection of the basic breeding stock; (2) Removal of the annual crop.

In certain areas, especially of the Lake States, the Middle West and the West, and with respect to certain species—notably deer, elk, ducks, pheasants and rabbits—the United States has entered this second phase. It is just coming into it, with respect to antelope. It is still in the building-up—or, more accurately, rebuilding—phase, with big-horn sheep, mountain goats, moose and most species of native upland birds. Even with the more plentiful species of big and small game, many areas are still in the rebuilding phase.

Do not misinterpret the intent of this article. We most emphatically do not advocate the reduction of all herds and flocks indiscriminately, in order to alleviate the meat shortage. We do believe, however, that game authorities should have the power to control game surpluses where they occur, and that the public and the legislatures should leave it to these competent and informed experts to determine what measures are advisable in each individual case.

If, in the course of carrying out these measures, an added one hundred million pounds of meat is saved annually, that is just one of the incidental benefits of intelligent and efficient game management.

Looking Over The News

From the Lebanon News under the title of the Sportsmen's Corner comes a little gem of a story about rabbit hunting and strategy that would make any army man's face fall with dismay.

"One afternoon three crackshot hunters were out combing the woods and fields for rabbits and pheasants. They tramped and they tramped, but they couldn't even stumble into a field mouse.

"Finally at long last the eagle-eyed member of the trio spied a rabbit, crouching nervously in a brush pile. The hunters looked at the rabbit. The rabbit looked at the hunters. Neither made a move.

"The hunters refused to shoot a sitting rabbit and the bunny refused to budge. So the nimrods—those three crackshots—planned an attack. In fact the attack planner is a corporal in the United States Army. He posted his two dumb civilian companions at strategic spots skirting the brush pile. If a rabbit was ever in a pincers, that poor bunny was. At that point the corporal made a frontal assault, reversed his field and goosed the rabbit on the hind foot. Out jumps the cottontail. Six shots stirred the crisp Fall atmosphere—bang, bang, bang, bang, bang, bang! Just like that. But the rabbit kept right on running. And by the speed he was making, he must be about a mile and a half west of Peoria by this time."

Did you hear about the "cowboys" in Erie? Better let the Meadville Republican tell it.

"The 'roundhouse cowboys' captured a big buck deer and they didn't have to leave their places at the local Erie Railroad shops to do it.

"The deer, a hefty fighting specimen, wandered from his accustomed haunts somewhere in the district, down the railroad tracks and into the roundhouse, where he must have tumbled into the turntable pits.

"Sam Naples, a workman on the job down there, came scurrying out as the buck made it plain he wanted no human company.

"Then, with a 30-foot rope converted quickly into a makeshift lasso, Tom Fucci tossed it around the buck's neck; and with the aid of Harry Main, Harry Brannon, Edward Haley, William Henry and "Babe" Caretti, hogtied the bucking, kicking, struggling animal.

"These six 'cowboys' carried the deer a distance equal to about four city blocks and placed him in the trunk of a game protector's automobile.

"They had, in their struggles to quiet the big buck, accidentally cut off his tail. Otherwise, he was uninjured. And he now was the game protector's problem.

"The protector, with the aid of a deputy protector, transported the animal—all the while 'doing his best to wreck the back end of the car,' to a nearby woodland. When they stopped and lifted the trunk lid, out and away went the deer, trailing behind him the 30-foot rope.

"Daylight was still in the offing; so a little later, when they could make their way into the woods and tell where they were going, they tracked the animal down, cornered him, and removed the rope.

"'He was still as strong and vigorous as ever and wasn't the least injured by his experience,' the officer said."



Photo courtesy of Grand Rapids Press

No deer hunter accounted for this big buck. Hunting rabbits in the woods of Baraga County in the upper Michigan peninsula shortly before the deer season opened. Ed. and James Monette of Houghton found the deer, dead of exhaustion and cold. He had locked his head between the two saplings and died after a hopeless struggle to free himself.

All of which proves the wild west hasn't got a thing on Pennsylvania. It seems wild animals never learn some of their lessons permanently. Anyway the Canadian Pacific Railways points out that when a bear and a locomotive meet head on something gives, and its usually the bear. However the Towanda Review reports the following:

"A Canadian Pacific Railway news release points out that bears consistently lose in arguments with railroad trains. Likewise, the railroad admits that the trains gain nothing through such encounters.

"Results of two recent bear-train collisions support this reasoning. On September 14, a Toronto-bound C. P. R. train struck a bear on the Nemegos, Ontario sub-division. The bear was killed and the train lost 28 minutes due to a damaged air brake. The second bunt occurred on September 15 when a C. P. R. train bound from Montreal to Vancouver bowled over a bear west of Pick, Ontario. Result—one dead bear, damaged steam line and hose and a 45 minute delay.

"Surely, says the C. P. R. operating department, if a bear can learn to dance he can also learn to stay off the tracks!"



Photo by Leo A. Luttringer, Jr.

Albino red-tailed hawk sent in by Charles Long, Fish Warden of Blain. Only two of its tail feathers showed a reddish cast.

Slim writing the column called "Let's Go Outdoors" in the Lancaster New Era gave space to a very odoriferous subject, smelly but interesting. Take over Slim:

"Skunks are almost indifferent to people. Slim saw one waddling along the cement walk in front of the Rossmere Sanitarium and cross the street onto the Catholic High property one evening. If you ever meet one of these fellows don't stand your ground, be courteous and step out of his way.

"Phares Kendig who tends door at Hubley's foundry, had a custom of feeding a cat named 'Mitzy,' some of his lunch. He fed the friendly pussy and was seated comfortably in a chair when he heard its soft-padded steps near him. Without turning his head he reached out to pick it up when he saw the cat outside. Startled he looked around to see his hand touching an upraised skunk's tail. The skunk ambled on past him and down the factory corridor.

"Bill Giggle went to enter his house trailer in Rossmere, one night when a skunk brushed past his leg and ran under the house. Bill got his .22 rifle and peered beneath the vehicle and spotted something white which he aimed at quickly and shot. There was a shattering of glass but the skunk was nowhere in sight. Bill was out a deposit on a bottle, but he escaped a far greater catastrophe, although he may not have realized it at the time."

Then there was the conscientious objector from a C. O. camp in Virginia, assigned to farm work in Chester County, who was fined $20 and costs and administered a lecture by Squire George D. Ellwanger, Schuylkill Township, for hunting without a resident license.

The objector was taken into custody with a companion and both were charged with the same violation by Edward W. Flexer, of Spring City, district game protector.

In fining Richer, the magistrate pointed out that "while objecting to carrying a gun in the army, you came into Chester County and saw nothing wrong in carrying a gun to violate the game laws of the State of Pennsylvania."—*Coatesville Record.*

Now don't forget to turn in your game kill report before the deadline and we'll see you all next month.

★ ★ ★ CURRENT TOPICS ★ ★ ★

FIELD NOTES

"I was recently talking with a man who has a male and a female guinea. This summer the hen laid 17 eggs and then left the nest. The male immediately went to setting and hatched out one guinea, the rest of the eggs not being fertile. After the eggs were hatched the male continued to care for the young while the hen went to laying once more. This time she laid some 20 eggs and again left her nest. The male immediately began setting, and this time hatched out 20 guineas. Again the male cared for the young, brooding them at night with the hen helping to feed them. With the young coming out in late September only 3 have survived the weather, but to this day still continue to travel with the male bird."—Game Protector Lester E. Shaffer, Division "G".

"While patrolling a distance of about 20 miles on Thanksgiving day in the Eastern half of McKean County I counted about 75 deer and only three had any antlers."—Game Protector Cecil D. Hancock, Division "E".

"Mr. Rudolph B. Kirchhof, 11 Cedar St., Spring City, Pa., on the first day of the small game season (Oct. 30) killed 8 rabbits with one shot. He killed a female that was carrying 7 young. He claims that the young were quite large and apparently would have been born within a few days."—Game Protector Edwin W. Flexer, Division "A".

"A number of fair bucks were killed on the opening of the season. Most hunters were pot hunting with very little driving being done. Does seem plentiful."—Game Protector E. J. Turner, Division "A".

"The 1943 small game season may be considered a successful season. We had a comparatively small number of hunters compared to other years, but the kill was, on the average, as good as previous years. However, because of the smaller number of hunters there was not as much game killed.

"The wild turkey kill was really better than I thought it would be. There probably were between twenty-five and thirty birds killed, which is not many. Since the opening of deer season several flocks of turkeys have been reported by deer hunters, which is encouraging. These flocks apparently were not busted up during the small game season.

"The deer hunters appear well satisfied that there are a lot of deer in this section and the condition of those killed attests to the fact that they are in fine condition and mainly have nice racks. Most of the deer hunters agree that in spite of former antlerless seasons the deer have made a substantial come-back and that the hunters who really went out and drove deer this buck season had fine sport."—Game Protector Harold E. Russell, Division "D".

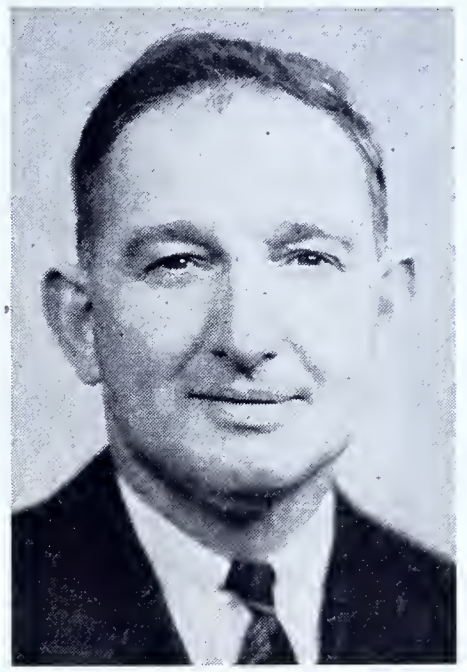
"In this section of Tussey Mountain there seems to be about 90% of the number of hunters that we had last year, but there are very few organized drives, therefore they are not killing too many legal deer."—Game Protector R. F. Turley, Division "D".

(Continued on page 29)

McKISSICK LEAVES SERVICE

One after another, either through death, injury, retirement or resignation, the old-timers are stepping out of the harness, the latest of these to be Game Protector Raymond H. (Ray) McKissick of Kittanning. Genial Ray, popular among his brother officers and with the staff, has been forced to leave the service because of an arm injury which prevents him from carrying on the usual strenuous duties of a Game Protector.

Starting his career with the Commission in January 1924, Mr. McKissick served until May 1925 as a Refuge Keeper, then by



Raymond H. McKissick

voluntary resignation left the service until 1928 when he returned in June, serving until April '29 as an Assistant Game Protector in Division I. On April 16, 1929 he was appointed Game Protector in charge of Westmoreland and Armstrong Counties, and more recently placed in charge of District G-3. Prior to his service with the Commission he was employed as a railroader.

We are all going to miss Ray because of his splendid personality and the fact that he painstakingly and enthusiastically applied himself on behalf of the Commission and the sportsmen. Nevertheless, we feel his new position as Probation Officer for Armstrong County will be to his physical advantage and wish him the best of luck in it.

OUDETTE RESIGNS

Visitors to the Pymatuning will miss Burt L. Oudette, who resigned on December 15, 1943. Burt's decision to leave the Commission and enter a new field of activity culminates over eight years of service beginning August 21, 1935 as a Land Management Game Protector in charge of the Pymatuning Refuge.

Previous to his service with the Commission, Burt served in the regular army from 1917 to 1926 subsequently as greens keeper with the Connewango Country Club and a watchman for the Department of Forests and Waters. We all wish him luck in his new undertaking.

DEPUTY FATALLY INJURED

A veteran Deputy Game Protector in Bucks County met instant death when a boulder he accidentally dislodged rolled on him, Friday night, November 5, 1943, on a rugged hillside over the Tohickon Creek.

The victim of the accident was Willos O. Myers, fifty-two of Soleburg. He met his death while raccoon hunting about a mile north of Point Pleasant, near Ralph Stover State Park, Bucks County.

There were no eye-witnesses to the tragedy, although Richard Wilson, a bridge policeman at Point Pleasant, was nearby, and was able to tell authorities approximately what had happened.

Mr. Myers had been a Deputy Game Protector for eighteen years, during which time he contributed a great deal of his effort and spare time to the conservation program.

"The kill of rabbits and squirrels was good this year, but turkeys were very scarce, or there were not enough men in the woods to get them scattered."—Game Protector D. H. Franklin, Division "D".

"There were quite a number of bear hunters in the Hick's Run section the first day of bear season but most of them left the woods early in the day on account of the rain and snow. After the first day there were very few hunters."—George E. Sprankle, Game Protector, Division "E".

"There was a larger number of bear hunters here this year than we have had for a long time, but the kill was small.

"There are also plenty of deer hunters but the kill is also small for the amount of hunters. In the Hammersley and head of the Wild Boy (always good hunting before), not a buck has been killed. The hunters all attribute it to the fact that there is no deer feed in the woods. The timber is too big. However several deer hunters have reported seeing bears."—Game Protector Ernest E. Hunsinger, Division "E".

"While conducting a car checking station in French Creek Township during the deer season I was listening to a group of nimrods bemoaning their luck, when suddenly a buck deer bounded across the highway barely missing being hit by a car and ran into a fence. Picking itself up, it leasurely walked across a large field, stopping now and then to look back at the surprised nimrods as if defying them to shoot because he was in a refuge and had the protection of six Game Protectors."—W. T. Campbell, Game Protector—F-10.

"All the grouse which had disappeared are showing up again in the old places. I have known this to happen before. It apparently is caused by the birds scattering unusually late in October."—Elmer L. Pilling, Game Protector E-10.



Red Fox Kit

Photo by W. L. R. Drake

Commission Acts to Control Predators

36 Additional Counties Open to Use of Snares

NOTICE TO GAME COMMISSION

To expedite the removal of surplus predators, and in view of the current shortage of traps, the Pennsylvania Game Commission, at a regular meeting held the 13th day of January 1944, pursuant to an Act of Assembly approved June 3, 1937 as amended, authorized the use of snares without springpoles, if indentified and visited as required by law, for taking predators between December 16, 1943 and March 31, 1944 in the following additional counties: Adams, Bedford, Blair, Bradford, Cameron, Carbon, Centre, Clearfield, Clinton, Columbia, Cumberland, Elk, Franklin, Fulton, Huntingdon, Jefferson, Juniata, Lackawanna, Luzerne, Lycoming, McKean, Mifflin, Monroe, Montour, Northumberland, Perry, Pike, Potter, Schuylkill, Snyder, Sullivan, Susquehanna, Tioga, Union, Wayne and Wyoming.

Executive Director
SETH GORDON

In an effort to control a serious predator problem which has become acute during the past year, especially with regard to foxes, the Game Commission took far-reaching action at its annual meeting Jan. 13 by authorizing the immediate use of snares without springpoles in thirty-six additional counties, that method being the only legal weapon at hand which it could apply quickly. Snares are especially effective at this period of the year when winter weather, particularly heavy snows, handicap the users of steel traps.

The Commission took cognizance, based on field officers reports, of the fact that both red and gray foxes, as well as other predators, are becoming a serious menace to wildlife and livestock in many parts of the State because of their alarming increase which is attributed to: 1—the low fur prices which prevailed for some years 2—the absence of experienced trappers for the past serveral years, due to the fact that a great many of them are in the armed or industrial forces.

The resolution with regard to the use of snares becomes effective immediately and will extend until the end of March, according to law. The entire field organization of the Commission has been ordered to exert every possible effort to help alleviate the situation, and its officers have been instructed not only to use this means of combating the situation locally, but to lend their experience and support to farmers, sportsmen and others who are interested in reducing the predator populations between now and the spring breeding season for game birds and animals.

One of the main reasons the Commission decided to permit the use of snares is the scarcity of traps. Field officers have been requested to put every available trap to use, and to encourage local trappers to do likewise.

The Commission considered the establishment of additional bounties upon foxes and other enemies of wildlife as an inducement to control their numbers under the present emergency, but felt it would be of little help because the application of such a system would legally take several months before it could be effective, during which time conditions would naturally grow more acute.

The Field Divisions affected by the Commission's resolution are "B", including the counties of Carbon, Lackawanna, Luzerne, Monroe, Pike, Schuylkill, Susquehanna, Wayne and Wyoming; "C", including the counties of Bradford, Columbia, Lycoming, Montour, Northumberland, Snyder, Sullivan, Tioga and Union; "D", including the counties of Adams, Bedford, Blair, Cumberland, Franklin, Fulton, Huntingdon, Juniata, Mifflin and Perry and "E", including the counties of Cameron, Centre, Clearfield, Clinton, Elk, Jefferson, McKean and Potter.

By previous resolution three counties in Division "F" have been open to the use of snares since December 16 namely, Clarion, Forest, and Warren. These three will be open to this method under the present resolution. In the balance of the State other control measures will be effective, it is believed.

The Commission hopes sportsmen, farmers and others interested in controlling predators under the present emergency, will make a concerted effort to reduce predators. *The fur market at the present time is higher,* which should, and no doubt will, result in effecting a satisfactory reduction in the numbers of red foxes particularly.

COMMISSION ELECTS

Leffler-Lamberton Re-elected
Issue Preliminary Game Kill

At its annual meeting on Jan. 13 the Game Commission reelected Ross L. Leffler, McKeesport, president, and Robert Lamberton, Franklin, vice president.

It also reviewed the preliminary reports of field officers on the take of big and small game during the past season and expressed its complete satisfaction of the annual harvest, despite the fact that less game of most kinds was taken generally.

The Commission expected this as a natural result of the war effort, for reasons that (1) a great many hunters are now serving their country or are engaged in other war work (2) that those who were fortunate enough to get afield were unable to spend as many man-hours hunting as they would have done under normal circumstances.

Only two things tended to cast a shadow over an otherwise satisfactory season, namely, the fact that hunters apparently were too over-zealous to kill game, which resulted in far too many avoidable accidents, and that far too many of them were caught carrying loaded firearms in their automobiles. As a result fatalities in both seasons numbered 27, one more in the aggregate than in 1942, whereas non-fatal accidents totalled 327, as compared with 353 during the previous year, a decrease of 26. Twenty-one of the fatal accidents occurred during the small season.

THINGS YOU MAY NOT KNOW

That a number of queer designations have been given animal and bird groups. For instance it is:

A *covey* of partridges; a *nide* of pheasants; a *wisp* of snipe; a *flight* of doves or swallows; a *muster* of peacocks; a *siege* of herons; a *building* of rooks; a *brood* of grouse; a *plump* of wildfowl.

That the hummingbird is the only bird known to fly backwards as well as forwards.

That the *chevrotain,* a small African animal, walks on the tips of its toes and sleeps with its eyes open.

That the popular ".38 Special" revolver cartridge is really a ".357". This was brought about by a redesign of the original bullet, to fit the groove diameters of newly designed revolvers, but the designation of ".38 Special" still remains.

The giraffe is the only living creature which trots and gallops at the same time. His front legs gallop and his rear legs trot. The word giraffe means "the one who moves swiftly."

The pronghorn antelope of the West is really not a true antelope at all. Horns of true antelopes are portions of the skull itself and are never shed. But the pronghorn sheds his horns and grows a new set each year. He has no traces of the rudimentary hooves which are present on the hocks of all other ruminants. Today he is the sole living representative of his genus.

Field Notes—Continued

(Continued on page 27)

"According to observations since the close of the small game season a reasonable amount of rabbits, pheasants and squirrels are left over, especially in remote sections where good cover exists."—R. E. Holtzapple, Game Protector A-5.

"I believe the bear and deer kills for the first part of the season were light because most of the hunters either stood on watch or walked along trails. Very few got back in the brush and there was little or no driving to keep game on the move."—Elmer D. Thompson, Game Protector F-2. . . . Note: This seems to be the opinion of many other protectors, therefore we shall not publish their reports on this subject separately.

"On the third day of the buck season I stopped at the Hutton Run Rod & Gun Club Camp, near Six Mile Run in the Black Moshannon Area of Centre County, to make a photo of three deer they had hung up. I complimented the boys, who were from Westmoreland County, on their good record for the brief time they had been in camp when one of the chaps informed me that there should be a fourth deer hanging there still steaming. I asked the hunter how come and he told me the following story:

"Just about a half an hour ago, we were working our way back to camp and were about a quarter of a mile up the hollow back of the cabin when we heard cookie shouting for help. Thinking that something serious had happened we all ran back to camp to find him standing just outside the door with a dish-pan in one hand and a dish-rag in the other, pointing up over the bank on the opposite side of the main highway and shouting 'he went up over the bank.' Asking who had run up the bank and what for he replied, 'a nice big buck. I had come out to dump a pan of dish water and found the buck standing a few feet from the deer hanging up and looking them over.' We asked him why in the H--- he didn't shoot and he said he hadn't thought of it." Just another case of old "Buck Fever."—Delbert Batcheler, Division of Public Information.

"About noon, December 1, after I had stood a deer watch for nearly an hour in the mountains near Bakersville, Somerset County, an unusual occurrence took place within sight in fairly open woods.

"About ninety yards away a grouse thundered out, flew at top speed to a point about twenty yards from me, and dove right into the trunk of a sapling. Feathers flew as if the bird had been blasted down at close range by shotgun fire. When I reached it, the grouse lay convulsing its last. All the feathers and skin of the right underside had been torn off. There was a dime-size hole in the right breast. The right leg was torn almost from the body.

"Puzzled for an explanation as to why the bird blew up for no apparent cause and flew so crazily, I went to its take-off point. There were no tell-tale signs on the leaves and bare ground. It is my belief that one of the numerous foxes in that territory all but caught this grouse, tearing out part of its tail and a bit of the back—enough to cause its fear-crazed, fatal flight."—Sgt. (Ex-Game Protector) R. D. Reed.

"On Monday morning November 25, Mr. Ernest Sweitzer of Tyrone, Pennsylvania and I made our usual trip to Waefe Hollow in Centre County for deer. This particular district I believe is one of the best for deer in our state. I have always enjoyed going hunting to this particular place because it contains good cover and food. As I was sitting on a stump I saw two huge columns of smoke rising from a hollow tree about 50 yards away. Immediately I made an investigation and found that some hunter had built a fire in the hollow tree and left it burning. I worked frantically about two hours before I extinguished it.

"One thing remains in my mind from this experience, namely, if I had not noticed this fire hundreds of acres of good deer country and game would have been destroyed. This section of land is very thickly wooded and the leaves were very dry.

"I have often read in your GAME NEWS about the precautions which every hunter should take and I hope that you keep up the good work and remind our hunters about building fire, such as the one which I noticed in time."—John L. Weiss, Boyertown, Pa.

FOUND

A lense from a pair of field glasses near Richmond Furnace, Pa., about the third or fourth day of the deer season, by Walter A. Runkle, 159 Tolbert St., Wadsworth, Ohio. Mr. Runkle will forward it as soon as he hears from the hunter who lost it.



Waste scrap collected by Willoughby Eck, Wescosville, in the vicinity of Hass Mill, Upper Macungie Township, Lehigh County, in response to a plea carried in a recent issue of GAME NEWS. The scrap was gathered on less than 300 acres of ground.



A 6′ 4″ blacksnake killed by Ralph B. Keiter, Newport, who measures exactly 6′ 3″. The reptile was in a tree about 25′ from the ground when Keiter spied it and shot it.

"The first day of deer season there were a good many bucks killed but most of them had small racks. The average was about four or six points. However, I recovered one from Game Lands No. 29A that had ten points and weighed about 160 pounds . . . Incidentally there should be plenty of frogs in the river another year. I saw one place about fifty feet in diameter where the bottom was completely covered with tadpoles. They were about the size of a quarter or half dollar."—George H. Burdick, Game Protector F-4.

"The deer kill in the Pocono Mountain Section was slightly better than last year, although only a small number of hunters participated. The deer averaged about 115 lbs., but their condition was excellent. Size of racks of those killed thus far has been small. No reports of dropped antlers."—Paul L. Failor, Game Protector B-2.

(Continued on page 31)



Photo by John B. Miller

75,000 bunnies is the Commission's goal this winter in its live-game trapping program in which Boy Scouts, sportsmen, farmers, and others are greatly assisting Game Protectors.

☆ WITH THOSE IN THE SERVICE ☆

"Received your Christmas Greeting on Saturday and it brought to my attention when I noted the Dayton postmark that I have certainly been neglecting to keep you informed of my changes of address.

"It has been quite some time since I left Dayton, Washington. During that time I have had a special assignment that took me from Posco, Washington to the East Coast and New York City. When that mission was completed I was sent to Camp Williams, Utah. I was there only two weeks until I was sent on here to Tulelake, California, where one of the Japanese Relocation Centers established by the War Relocation Authority is located.

"This particular area is a Segregation Center for all of the Japanese who had declared their loyalty to Japan, also all of the Japanese from the other Centers who had proved to be troublemakers.

"About two weeks ago I was made the Assistant Provost Marshal of the Center. Just now I am acting as Company Commander of "D" Company, 952nd M. P. Bn. during the absence of Captain Hayes.

"I can report that in spite of being kept pretty busy I was able to get out for a little hunting. I had some waterfowl shooting in October with very good results. This is a waterfowl hunter's paradise. There is a large Federal waterfowl refuge at Tulelake and thousands upon thousands of ducks and geese are in this vicinity. Sometimes the sky is black with numerous flocks of geese. I didn't get out during November until the 28th at which time the ringneck pheasant season opened. I left my quarters on foot at 9:00 A.M. and returned at 11:30 with my first day's bag limit of four fine cock birds. There is some fine bird shooting in these parts.

"My work has some unpleasant angles but I will have to admit that it has been quite interesting, and I can class it as an education that should prove beneficial to me at a later date.

"Please excuse my long delay in advising you of my change of address. I have been receiving the GAME NEWS as they have forwarded them to me from Dayton. Please take care of changing my address on the GAME NEWS mailing list.

"Will take this opportunity to wish you and the rest of the force a Merry Christmas and Happy New Year."—Lt. David Titus.

"Though French Guiana isn't like Pennsylvania—it made me feel "nearer at home" to see deer tracks again. Probably it will be my good fortune to see the animals themselves after awhile.

"Quite a bit of bird and insect, life here. Temperature this near the equator isn't as bad as I feared it would be. Have been out to Devil's Island but as time was short didn't get the chance to go ashore. Yes—I got seasick on the way there—and coming back was little different in that respect.

"As I have a bunch of cards to get in the mail—I'll leave you for this time and will write more when I get the chance.

"With best wishes for Xmas and the coming year, and here's hoping we can meet before another Xmas."—Sgt. M. L. Shaffer.

Just received a short note from Pvt. Clifford L. Ruth, Game Protector Land Management, Bedford County, who is now stationed at Camp Sibert, Alabama. Cliff just received a copy of the GAME NEWS and in reply says "I haven't had the chance to read it yet but you can be sure I'll read every article now in a much more thorough manner than I did while I was still working with the Commission." Cliff hasn't much time to write at the moment but that won't keep him from reading any notes his buddies send him. Address, A. S. N.—33704240, 229th Cml. Depot Co., 2nd Regt., U. T. C., Camp Sibert.

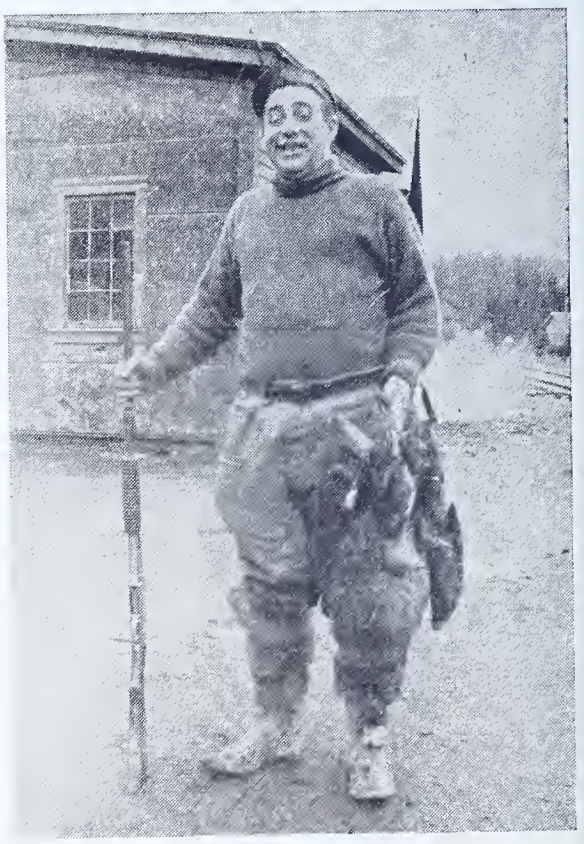
Rare Bird Vanishing

The Ivory-billed Woodpecker, North America's rarest bird, is slowly but surely following the Passenger Pigeon and Great Auk into oblivion. In fact, this marvelous flame-crested white-billed member of the woodpecker family is almost extinct. Only a few pairs of those beautiful creatures are known to exist in a primeval forest of hardwood timber growing in the bottom-land of the Tensas River in North Louisiana, known as the Singer tract. The giant hardwood trees of this tract, one of America's last stands of virgin timber, is rapidly being felled by the huge saws of a lumber firm now logging the forest. When this tract is leveled, the last known natural habitat of this magnificent bird will be gone forever. And with it will go the few remaining Ivory-bills.

Governor Prentice Cooper recently expressed a keen interest in starting a campaign which might lead to the salvation of this bird. He has generously offered to see that Tennessee appropriates her share of the money necessary to carry on such a campaign, provided other states are sufficiently interested to do likewise.

Unless something is done to save at least a portion of the virgin timber in the Singer tract, the beautiful Ivory-bill is doomed to extinction. The bird cannot exist except in such a forest, since its chief source of food is the woodboring insects and the larvae thereof which are present in the sweet gum, hackberry, Nutall's oak, green ash and other species of hardwoods.

We are wondering where some of the other fellows are. Haven't heard from several of them for some time. If you have changed your address let us know as soon as you can. We want to keep the News and such right on your tail as long as we can.



Lee Hayes, former President Keystone Sportsmen's Association, Harrisburg, with one honker, two teal, and one widgeon, killed in Washington, where he is now serving with a Railroad Detachment, A.P.O. Seattle.



Warren Bixler of Pittsburgh proudly displays ringnecks and squirrels killed by he and three companions near Greensburg first day of last season. They also bagged some rabbits which are not shown.

Field Notes—Continued

(Continued from page 29)

"While in the Burnett's Ridge section of Lycoming County with Game Protector George Koehler, I saw where a nice 'bar' had been killed while in the act of digging-in for the winter.

"A group of hunters driving that area had one of their watchers posted on a CCC road near the top of the ridge, at a point where the upper bank of the road was about six feet above the level of the road. The watcher hearing a noise above the bank, decided to take a look and found bruin just a 'diggin' for fair." From the story in the snow, this chap had crawled up the bank and felled the bear at a distance of about twenty-five feet.

"From other tell-tale marks in the snow it was evident that about four sets of tracks, made at different times, had converged at about the same spot where this particular bear had been killed, as if their makers had looked it over as a likely spot to hole up but had taken off in other directions in search of better diggin's."—Delbert Batcheler, Division of Public Information.

"The deer problem on the Presque Isle Park has reached a serious stage. There are too many animals for the food supply. They have started eating the shrubbery as they did last winter and will do a great deal of damage this winter. In my opinion there are three times as many deer in the park as there should be. A fair estimate would be around 150. Last year about 40 were killed by automobiles and hunters."—F. H. Coffin, Game Protector, Erie County.

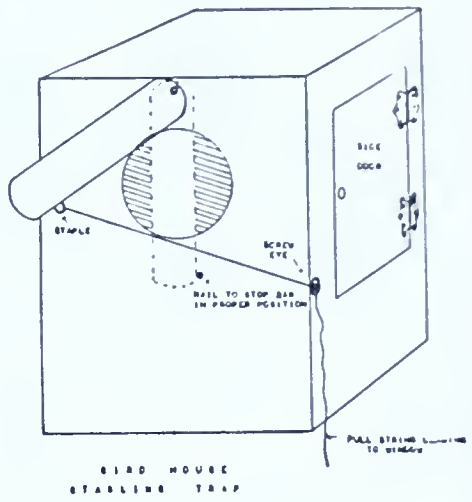
STARLING CONTROL

By Owen J. Gromme

Reprinted from The Passenger Pigeon *Vol. IV, Nos. 4, 5, 6, page 36*

During the spring of the year we are on the receiving end of a barrage of telephone calls and mail as well as personal calls from downright irate bird lovers who cannot attract desirable birds to their yard on account of the English Starling and English Sparrow. Perhaps a little publicity on an extremely simple but very effective way to discourage these two species would be of interest. We recently moved way out on the west side where I have considerable elbow room and in an area that is naturally attractive to song birds. Of course, my first consideration was to get up a number of bird houses. This I did, and immediately came to appreciate how people can work up a real mad over Starlings and Sparrows. Up until about May 1st it was a constant battle between the Tree Swallows, Woodpeckers, and other hole nesting birds and our introduced foreigners.

In most localities, particularly the urban ones, it is unlawful to discharge firearms. This leaves the bird lover practically helpless, but of course necessity is the mother of invention. The accompanying sketch shows a little contraption which has considerably reduced the number of these pests in my neighborhood. Quite a number of times I have gotten both adult Starlings at one pull of the string. I use an ordinary square or conventional bird house placed conveniently just a little bit above eye level. In order to remove them after trapping, it is necessary that the bird house have a side door large enough to admit the hand. From that point on the means of disposal is entirely up to the individual. This can be done in a very humane way with little trouble by placing the birds in a small



mesh wire cage and immersing it in the laundry tub. The weight of the cage will sink it sufficiently.

I have equipped all of our bird houses with this trapping arrangement, and the pull strings all lead to the kitchen window from which point my wife can observe what goes on while she is going about her tasks. So far she has caught every Sparrow and Starling that went into any of the houses. It does not take them long to realize the neighborhood is extremely unhealthy. The trapping arrangement does not seem to bother the other birds in the least. If the houses are placed at a low enough elevation it is much less work to get at them for pest removal. I visit each house every night at about nine o'clock and remove the Sparrows which sometimes slip in while you are not watching just before dark. This process is not advisable, however, if the desired birds seem to be fairly well established.



Photo by D. L. Batcheler

Type of Educational signboard display at the various Refuge Headquarters of the Commission.

First Day—First Shot—First Buck



Joe Martin
(Twelve Years Young)

EVEN at twelve years of age I know the whole story of buck shooting is not so simple. I was so near frozen that first morning on my crossing on the Blue Ridge Mountains in Franklin County that it would have taken hours to work up a buck fever. Dad and my cousin 'Bones' came to me to eat lunch before changing our positions. Dad reported the deer had circled back into the laurel, when he drove them quietly, rather than come out to us.

I was pouring hot tea into my thermos bottle top and remarking quietly: "that idea of standing in our sleeping bags on watch today was a good one. I wish you had insisted," when 'Bones' interrupted with "I see a deer!" Dad added "It's a buck and he's coming!" 'Bones' gun lay near me while he sat in plain red view in the sun twenty feet away. He slid slowly off the stump and lay in the leaves. Dad said to me "This is your crossing, go to work on him. 'Bones' and I have grandstand seats for the fun."

The buck stood for a moment at the edge of the laurel and then came angling toward me. I had slid around the tree in the cleaned ring without making a sound. Soon I saw antlers. The buck stopped again to check. I whispered: "There's a good shot, but a little far." I heard just back of me and behind the same big tree: "Let him come." Soon the buck started again. I could not hear him make a sound in the dry leaves and he was good to see. I remembered "the shoulder shot is the largest vital target—make the first shot good." That's as good as I'll get—as soon as he comes through that opening—B-A-N-G! He went straight down. I pumped my .32 Special and waited. "It isn't necessary to give *him* a second one, is it?" Dad exclaimed "be ready—watch him!" We walked down to him. There he lay, a fine eight point buck wedged between two trees. Three legs were doubled under him—he fell so dead. A big hole was in the base of his neck and hair was off in two spots near the hole. I was sure I had held on his shoulder. His eyes turned a bit and he moved his mouth as if trying to breath. He turned his ears several times. In about a minute he slowly straightened his free hind leg, raised and lowered his tail, and it was all over without a struggle. The big hole in the base of his neck prompted us to look and discover that the bullet had gone through a two inch sapling, deflected a bit and tore a large hole through the neck.

The grandstand then got alive as 'Bones' and Dad warmed me up in a little celebration. After that we decided to finish our lunch before dressing him—one lesson well known from rabbits and squirrels but not from my first buck. My thermos top was *full* of cold tea and my half eaten sandwich lay beside it when we stepped back the fifty-eight steps to where I shot from.

I was sure glad 'Bones' and Dad were there to share the fun. They had carried me up there before I could walk after them ten years ago while scouting for deer. I have enjoyed the out-of-doors every summer in camp until I was eight years old and three summers around the Nation in a Ford Bus full of boys and girls in fine adventure. Last summer we worked here. We saw plenty of deer, elk, moose, black and grizzly bears, etc., on those trips around the country and took many pictures. It's a harder job to stalk these fine creatures and put them in a little camera than to shoot them.

—Joe Martin, Wyomissing, Pa.
(Twelve Years Young)

BUY BONDS



HUNTERS YOU KNEW

KINDLY CAL

Calloway Tubbs
Discovered two cubs
At the base of a big yellow pine.
"Did mamma desert you?
Come, come—I won't hurt you!"
Each answered a sad little whine.
He dropped his bear gun
As he packed each wee one
Neath his arm, "I'm someone who'll care."
While acting so kind,
He was struck from behind
By 300 pounds of she-bear!

—Carsten Ahrens.

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Pennsylvania Game Commission
Harrisburg, Pa.

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BLUE MOUNTAIN
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LEGEND
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Fair Motor Road
Poor Motor Road
Road Under Construction
Trail or Path
Boundary Line
Railroad
Railroad Station
Stream
Hatchured Lines show boundaries of Lands the Game Commission's Purchasing
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AND

BACK THE ATTACK

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VOL. XIV, NO. 12

EDITORIAL

MARCH, 1944

IN THIS ISSUE

★

Foxy Fox Hunting
By Lenn Donaldson

★

More About Deer

★

Invasion from the South
By Jacob Bates Abbott

★

Food Habits of the Black Bear

★

Wildlife Conservation—Its Past, Present and Future
By William Grimm

★

History of the Ringneck Pheasant in Pennsylvania
By Col. Henry W. Shoemaker

★

Hunting Scene
By Bill Driscoll

★

Big Game Feeding vs. Fires
By Chas. Hogeland

★

Land Classification As a Technique in Wildlife Management

★

In Pursuit of Beavers
By S. V. Sedlak

★

With Those in Service

★

Cover by Dr. Charles S. Apgar

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THE PREDATOR PROBLEM

The predator problem which has gradually become so acute locally throughout the Commonwealth since Pearl Harbor is not confined to Pennsylvania by any means. Many other states are faced with a similar situation, especially as it pertains to an increase in the fox populations. As a result fox hunts are in vogue in many sections of the country today and are becoming increasingly popular with sportsmen who never pitted their wits against sly old Reynard before. And these hunts are bearing fruit if one can judge by the reports one hears.

Just as there is "more than one way to skin a cat," so is there more than one method of bagging his fox-ship. One of these methods applied by a group of Pennsylvania sportsmen in Warren County is explained in a story on Page 3 of this issue. Don't fail to read it as well as the account, on Page 21, of the additional bounties offered by several other associations of Keystone sportsmen in Lancaster County. They have something "on the ball" that is worth making note of.

And for additional suggestions remember that there is a whale of a lot of sport chasing foxes with dogs. If you and your friends can pal up with a fellow who owns some fox hounds, or some of those little "creeper" or "hole" dogs, you will be in for the time of your lives and will get more shooting than you can shake a stick at, to say nothing of the results. Dr. H. E. Kilgus, Member of the Commission from Brockway, recently acquired a fine pair of fox hounds in a determined effort to assist local hunters in reducing the number of bushy-tails in that part of the state, and similarly minded persons elsewhere in the Commonwealth are following suit.

It goes without saying that with all the aroused interest since the Commission first made known the serious problem some weeks ago, it will not be long ere it will be partially solved—thanks to the usual cooperative spirit of our conservation minded citizenry.

For the sake of those who may misunderstand or criticize, however, let it be perfectly clear that the predator campaign is not designed to annihilate any wild creature, be it fox, weasel, hawk, owl, etc. It is aimed only at control at a time when control is sorely needed.

★ ★ ★



Springtime

FOXY FOX HUNTING

Here's How The Warren Field and Stream Club is Handling Its Local Predator Problem--and Boy, Is It Fun?

By Lenn Donaldson

THIS is the story of an active sportsmen's organization which started out to improve the local small game situation and wound up accomplishing their objective, at the same time having a world of fun doing it.

Members of the Warren Field and Stream Club got pretty worried last fall when they found fewer rabbits and grouse than they had found in previous years, and practically no ringneck pheasants. Foxes were plentiful in the county for several years but it wasn't until the first snow fell that the boys found out just how many foxes they had. Favorite hunting cover was a mass of fox tracks and the game which used to be there was, they assumed, preyed upon by the owners of those tracks. Small game hunters bagged many more foxes than usual. Deer hunters did likewise. So, the club appointed a Fox Hunting Committee which outlined a program of hunting the animals with dogs. They held a special meeting attended, among others, by Game Protector George Norris and two of his friends who had run up against the same situation in their counties—Game Protector Miller from Butler and Game Protector Sutherland from Mercer. When the meeting was over a plan so simple was effected that it couldn't miss. The club decided to stage a vermin hunt.

A committee was selected to find the territory which showed indications of having the greatest concentration of fresh fox tracks. This is a full day's job for no less than four men. When the territory for the hunt is decided upon watchers are placed around the area on three sides close enough together so that a fox *should* be killed if he tries to get between two men. The area should be one-half mile long because foxes usually move out far ahead of the drivers. Our drives have been about one-third of a mile wide. The area is stepped off to determine how many men it will require to cover three sides of it, and each man on the committee must know where he is going to place the men assigned to him on the day of the hunt. While the watchers are being assigned, the drivers are likewise placed, and the signal for the start of the drive is a prearranged time. Shots are not a satisfactory signal because someone may see a fox, or an owl, and shoot before the entire group is ready thus messing the whole thing up.

Now the prearranged time has arrived and the drivers start through barking like dogs, glad to get moving because it is 16° above zero. They move rather slowly because some men are bound to have tough going through this three year old slash, and by moving slowly the line keeps pretty straight. As they move through, the watchers start falling into line, tightening the drive. The din of the barking makes a chill run up your back if you see a fox or not. Some of the drivers come to a steep ravine and have it pretty tough for a time. It would be nice to walk up the ravine instead of climbing the steep bank, but that's exactly what happened on the last hunt we had and two foxes got through the line. So we keep plugging.

The drive is just about half over when a shot is heard, then another, followed by a regular barrage. All together twenty-two shots are fired and we on the drive are sure we will find at least ten foxes laid out for approval and weight guessing. But not so. The boys got one and badly wounded another but the excitement is high among the watchers because twelve of them got shooting. Some had "buckfever," some were using bird-shot (next time they will pour out the bird-shot and fill with BB's) and most forget to lead. Don't think for a minute when you get a fox going under these conditions that he doesn't move, and quick. Experienced grouse hunters on these drives declared that in their opinion these foxes moved as fast as grouse fly—or at least seemed to. They're in high gear and they're super-charged.

We get going again, lining up for our second drive. This time we only move one fox out and he is badly wounded. It is followed for a short distance but beds down four times so one of the boys goes home for his coon hounds to see if they will take the trail. They take it and make the kill across the ridge in some thick hemlock after about a three mile chase. This fox provided shooting for eight men, and seventeen shots were fired. Fun? You're not fooling.

Now we go back to our point of beginning where the refreshment committee has boiling coffee ready and hot dogs broiled over charcoal and a great big fire. The boys who had "buckfever" are getting quite a razing and everyone is comparing conditions under which they got their shooting, and EVERYONE IS HAVING FUN—all 93 men. The two drives took nearly four hours and by the time we're through eating it's time to go home.

This week-end the committee will line up another hunt to be held the following Sunday, and we're sure that with anything near favorable weather we'll have at least 150 men out because men who have never belonged to a Sportsmen's Club are joining us now just because of these hunts. Every member who has attended a Fox Hunt declares it's at least as much fun as hunting deer by driving, provides more shooting, and holds the club together in an otherwise pitiful off-season. Try it in your local cover. It's a great January, February and March tonic.

The Warren Field and Stream Club (formerly the Izaak Walton Club of Warren County) started the year with 49 members and ended it with 612. We're just as sure as can be that these fox hunts are going to be worth another 200 membership—32 men joined us at our meeting last night. Believe me, these hunts are fun—and you can spell it with capital letters.



When it's 16 degrees above the boys can get pretty enthusiastic over hot dogs and coffee.



"Chris" Burdick didn't miss.



Deer will browse as high as they can reach standing on their hind legs.

MORE ABOUT DEER

A look-see into Wisconsin's Deer Problem which in many respects is more serious than our own. Next month watch for a brief account of how Colorado manages its big game. Also some interesting comments on our recent antlerless deer season by Randolph Thompson, field lecturer, who covered it on special assignment.

IN comparatively recent issues of GAME NEWS we carried several articles concerning deer problems in other parts of the country as well as in Pennsylvania. We did this for three reasons:

1. To show the similarity of those problems to ours;

2. To show to what lengths some other states have gone in applying remedial measures which Pennsylvania had found practical and effective throughout the years; and

3. To acquaint our hunting fraternity with the curative methods resorted to by other states, it having always been the Commission's feeling that the other fellow has a leaf or two in his book of experience worth using.

Two of the most recent instances of this seemingly never ending epidemic of deeritis came to our attention the other day, one in the form of a detailed discussion of an acute condition which exists in Wisconsin, the other an enlightening account of the control measures employed in Colorado to regulate the carrying capacity of its big game ranges.

The Wisconsin discussion, covered in a 23-page bulletin titled "Wisconsin's Deer Problem," containing an analysis of deer over populations in general by Aldo Leopold, an account of the Wisconsin problem itself by W. S. Feeney, Project Leader of that state's deer research project, and a majority report of a Citizen's Committee selected to study conditions in the field in company with conservation department experts, is too voluminous to reprint. However, it is worth anyone's while to read if they are seriously interested in the subject. Above all it is certainly worthy of highlighting briefly, which we shall attempt to do, based on several careful readings of the pamphlet plus the added advantage of having been visually introduced to the problem via a most dramatic Wisconsin Department motion picture titled "Starvation Stalks the Herd." That picture will remain indelibly fixed in our minds, even though previous experiences with starving deer in Pennsylvania should have rendered us immune to their suffering.

But to the story, which in a general way is a repetition of our own proverbial and periodical difficulties. Summed up, the Wisconsin deer herd has greatly increased in the past decade or two. Up to the point where range destruction has set in the increase was desirable, but now it has reached the place where many of the most important deer yards are completely browsed out, and set back for years to come.

In the so-called browsed out deer yards, reproduction of cedar, pines, and several of the other comparatively slow growing trees are either killed or held at a standstill. In some areas there has been no reproduction



Over-browsed Jack Pine in Town of Mentor, Eau Claire County.

of such species for several years. Some of the more palatable species such as ground hemlock and moosewood are exterminated by repeated browsing. Other trees and shrubs are severely trimmed and eventually stunted or killed; but, even under the worst conditions, considering all species, a yard is never completely and permanently browsed out, for each year there is a certain amount of growth which comes back and which will carry at least a few deer.

Cedar and balsam and several other species, however, when once browsed clean as high as the deer can reach can make no appreciable comeback below the browse line and therefore can be replaced only by the growth of seedling trees. Wisconsin has many examples where the food production has been greatly reduced and held at a low level by repeated overbrowsing. Such areas can no longer carry as many deer as they once did and there can be no comback as long as the deer are eating all of the reproduction and all of the browse growth.

In the past three years the deer project in Wisconsin, under the direction of project leader W. S. Feeney, has examined about 260 deer yards or concentration areas, some covering only a quarter section, others several square miles. More than two-thirds of the winter yards in the northern part of the state are heavily overbrowsed and in three-fourths the deer are now over the carrying capacity on a sustained basis, with the population as it has been for the past three years; i.e., they have been eating more than the current growth of food. About 25% of the yards are so severely browsed that no appreciable amount of recovery can be expected in the next 5 or 10 years, even if the deer herds in these areas were reduced below their present low carrying capacity.

"The status of deer yards should always be based on the condition of the browse found, else by the time the die-off has become readily conspicuous, it is too late to apply any preventative management to the starvation areas," states the Wisconsin Report. The damage is already done and only less deer, time, and extreme measures can bring about a comeback. Unfortunately, in many places this has already happened. There are several reliable reports of starvation conditions having been reached in some places as early as 1935, and in these places the deer have continued to pile up and die every year since except for the very unusual winter of 1941-42. The deer project found very few dead deer during that winter because, with few exceptions, there was little snow and the deer were able to reach out from the yards far enough into the bordering summer range for the food to carry them through. In the normal winter of 1940-41, 448 dead deer were found and recorded. Over 70% had died from malnutrition and starvation; of these more than 80% were fawns i.e., deer approximately nine months old. During the past winter, '42-'43, which was estimated to be harder on deer than usual, over 1400 dead deer were found; nearly 80% had died from outright malnutrition and starvation, and in an additional 10% malnutrition was a contributing cause of death. Of the dead deer found, 77% were fawns; of these the ratio of bucks to does was approximately equal. Occasionally the misleading statement has come out that 1200 or 1300 deer died in Wisconsin last winter. Over 1400 deer were found, *but since only a very small percentage of the total acreage of the winter range was cruised this number could be multiplied considerably to arrive at the actual total starvation losses.*



After the snow was gone this deer was found among over-browsed Maple in Drummond Area, Bayfield County.



Dead deer found near timber cutting operations in Argonne Closed Area, Forest County. Balsam in background.

Wisconsin officials do know, however, as far as could be determined by counting live fawns and dead fawns, that all of last year's fawn crop was lost in several of the browsed out deer yards.

In Wisconsin the dead deer found are always checked for cause of death, first by the field bone test, and whenever possible by complete autopsy. The field bone test is used to determine the presence of starvation. The marrow of the tibia or middle rear leg bone is pink or red and jelly like in malnutrition or starvation cases. Sportsmen who find dead deer during the winter can easily make this nutrition test for themselves and report their findings to the Game Commission. Deer have often been found dead from starvation or malnutrition and still have a full stomach. This is caused

(Continued on page 26)



Invasion from The South

By Jacob Bates Abbott

(Illustrations by the Author)

IN northern New England, where I recently lived for two years, they speak of five annual seasons: Spring, Summer, Autumn, Winter and March. And, believe me, there is good cause for their extra-inclusive listing! March is usually an unfriendly month all through the Atlantic States north of Virginia and hands out impartially generous portions of raw winds, snow, slush and sleet. It is this rugged climate that greets the first of the vast flocks of bird migrants returning from their winter vacations in the south. I have often wondered if the early robins, grackles and bluebirds experience bitter surprise at some of the weather that the northern March welcoming committee produces, or whether these hardy travellers really expect it. I have seen robins during a late February blizzard, heads nearly buried in their fluffed-out breast feathers, perched on some snow-covered branch, who LOOKED woe-begone and unhappy and who seemed to be calling themselves all kinds of a fool for leaving the sunny south. More than likely, however, they were quite comfortable and warmer than a man would be in a heavy overcoat sitting out the storm. For feathers are a wonderful protection against cold. Did you ever snuggle under an eiderdown quilt of a winter's night in the unheated upper room of a New England farm house?

For many years I have watched for the returning Spring migrants and have kept records of their arrivals. In northern New England, where they rarely winter, crows are the advance scouts of the migrating army—Spring's commandos—the first to establish a "beach-head" in the high, wind-swept New Hampshire pastures. Their flapping black silhouettes, etched against the cold blue sky are welcome signs that Spring is not far behind. They invariably appear during the first two weeks of March. In Pennsylvania, near Philadelphia, crows have their nests half built by March 12. I always associate the brown-spotted, blue-green eggs laid in the deep, bark-lined cup of the crow's bundle of sticks with the blossoming of bloodroot in the brown-leaved carpet of the forest floor.

In Chester Valley, seventeen miles outside Philadelphia, my records for 1940 show the arrivals of the earlier Spring migrants in the following order:

Red-tailed hawk	February 4
Flicker	February 12
Hermit thrush	February 18
Robin	February 26
Purple grackle	February 27
Turkey vulture	March 11
Canada goose	March 12
Ring-necked duck	March 12
Red-winged blackbird	March 12
Myrtle warbler	March 12
Meadowlark	March 12
Killdeer	March 18
Scaup duck	March 18
Cowbird	March 25
Bluebird	March 25
Rusty blackbird	March 25
Song sparrow	March 25
Pintail	March 27
Osprey	April 1
Baldpate	April 1
Hooded merganser	April 1
Red-breasted merganser	April 1
Phoebe	April 4
Tree swallow	April 4
Green-winged teal	April 4
Shoveller	April 4
Barn swallow	April 8
Wood duck	April 10
Yellow palm warbler	April 19

Of these it is possible that the red-tail, flicker, hermit thrush and myrtle warbler may have wintered in the locality; occasional hardy individuals often do. Many seasons I have seen one or two robins in this part of Pennsylvania in every one of the winter months. An occasional flicker, song sparrow or meadowlark is frequently seen braving out the bitter December, January or February weather; and the silhouette of a sparrow hawk, hovering over some frozen field, is not an uncommon winter sight.

For me it is great fun to watch for the Spring birds and to record with amazement how, year after year, certain species will appear, often even to the hour, on the identical date of previous years. For three years, while I was living in southern California, cliff swallows nested under the roof eaves of a stucco garage next door. They appeared each year—1931—32—33—on April 3rd., and on the last two years built their gourd-shaped clay nests within a few inches of their 1931 site.

Myrtles usually form the vanguard of the migrating hordes of wood warblers, but some of these winter in Pennsylvania and it is difficult to judge whether the flashing yellow rumps seen in the late winter or early Spring woods belong to early migrants or

hardy winter residents. However, when you see a yellow palm warbler flitting through low bushes and wagging his white-tipped tail madly in late March or early April you know that you have seen the first of the wholly-migrant warblers. This little "tip-up" has spent the winter on some of the Caribbean islands or in Central America. (Some do winter in southern Florida). His lemon yellow breast and streak over eye and bright rufous crown identify him and his nervously bobbing tail make this identity a certainty. Look for him by the middle of April at the edge of woods or hedgerows bordering fields, for the yellow palm is no lover of deep woods and spends much of his time on or near the ground. You won't see him long for he is on his way to nesting grounds in northern Maine and New Brunswick by the end of April.

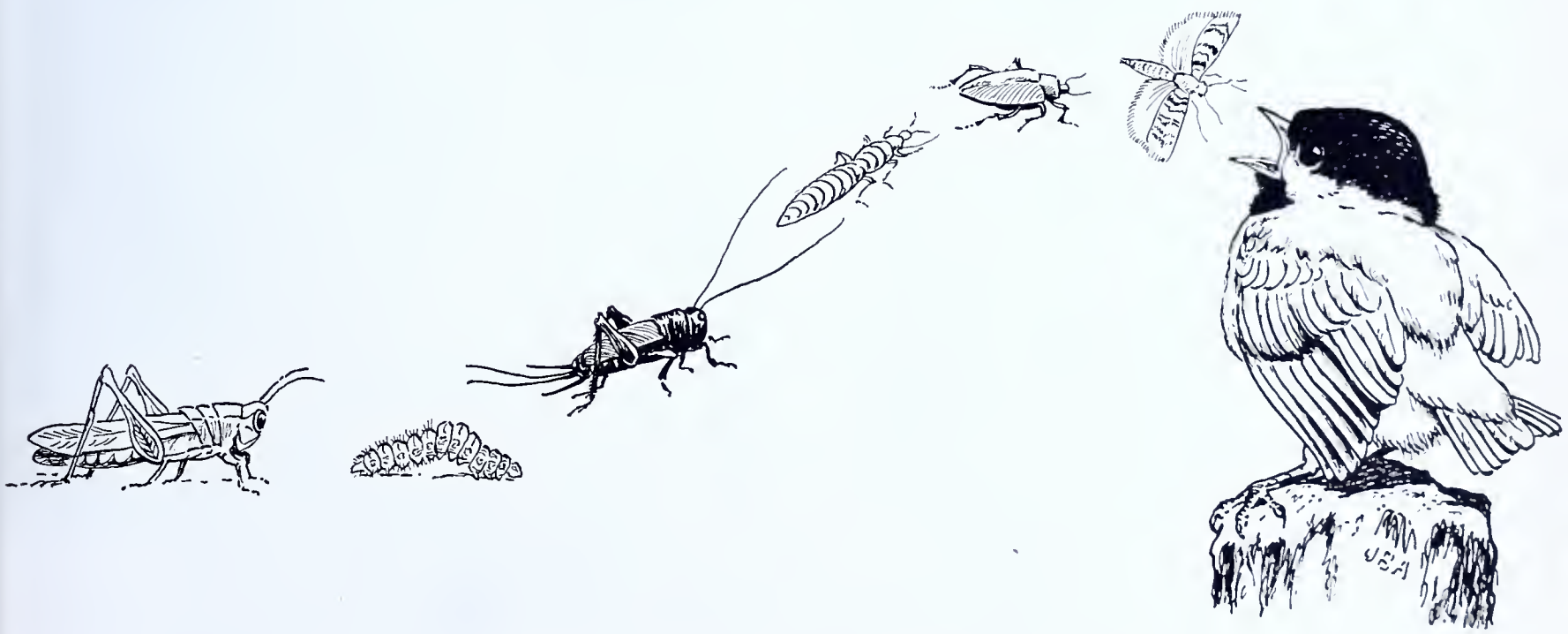
Before the first robins have come up from Virginia and points south and just about the time the chattering flocks of purple grackles are swarming over frozen fields and settling in clouds on bare-limbed oaks and maples, the great horned owl is brooding her two big white eggs in some old hawk's or crow's nest deep in a swampy woods. Of course, this big, mottled "hush-winged death" is not a migrant but is resident wherever found.

In late March to mid April that whistling-winged mystic of the woods, philohela minor, the woodcock, lays her three, usually four, darkly-blotched buff eggs among the brown leaves of some alder swamp. I have watched a brooding woodcock in early April when a half inch of snow blanketed the ground surrounding her "nest."

Woodcocks, grackles, robins and red-winged blackbirds, although distinctly migratory, do not winter south of the borders of the United States and are, therefore the first of the migrant hosts to appear in Pennsylvania latitudes, as the powerful instinct for nesting urges them northward.

(Continued on page 30)





A young bird will eat its weight in destructive insects every day.



Food Habits of the Black Bear

Editor's Note: Only by extensive research throughout the years are accumulated the data which, not only in the study of wildlife and its management, but in all other fields of endeavor, constitute the barometer of knowledge and progress. And so often it turns out that in the pursuit of a given research objective, no matter what it happens to be, there is turned up along the line vital information that has a direct or indirect bearing upon an altogether different and many times unthought of subject.

The following little account, excerpted from a paper which appeared in the Journal of Mammalogy in February 1943, co-authored by Logan J. Bennett and P. F. English of the Pennsylvania Cooperative Wildlife Research Unit, State College, and R. L. Watts, former dean of agriculture of that institution, is a small contribution to our knowledge of what bruin and his family likes to eat. Everything must have a beginning and if this article does nothing more than enlighten us concerning the potentiality of prolonged studies of the food habits of not only bears, but of all of our wild creatures, it will have served its purpose very well.

For brevity's sake we present the meat of the authors' findings as popularly as possible, not in any way to disregard the scientific method of approach so essentially used by them in their original manuscript for subsequent comparison, but so it will be readily understood and assimilated by every one of our readers.

As I stated previously the study is limited. The authors readily admit this fact; but as we see the picture this is the only way by which we can keep our hunting public informed of things the Commission is trying to do that will ultimately make for better hunting and better management of the multiple things which constitute an animal's home-life, its food, its cover, etc. In subsequent issues we shall present other such findings, the nature of which we are confident will appeal to the majority of our readers. We hope you will enjoy and comment on them.

IN essence this little report covers the analysis of 119 scats, or bear droppings, collected at all seasons of the year from the fall of 1937 to and including the winter of 1940. The analysis of seven stomachs is also presented. In addition, six freshly dropped scats were collected by R. L. Watts in the fall of 1938 in Aroostock County, Maine; these, too, have been analysed, and the findings given. Sportsmen and game protectors assisted the authors in gathering the material.

The authors are well aware of the weaknesses of food habits studies based upon the analysis of scats; but such an approach is the only practical one for bears, as the killing of these animals out of season in order to make stomach analyses would indeed be unwise. Stomachs collected during the hunting season are valuable, but they are usually taken during a 4-day season late in November or early December and therefore information obtained from examination of their contents is not representative of year-long bear feeding habits.

In sixteen scats that had been dropped during the fall of 1937 in Clinton County, beechnuts were by far the most common food in them. Nine items were found, of which the residue of beechnuts constituted 97.6 percent of the total volume. Beech trees produced an excellent crop of nuts in 1937, but from that time to the present the production has been very light. Apparently bears forsake almost all other foods for beechnuts when they are available. Bears commonly climb trees after nuts and apples.

Only one dropping was collected in the spring of 1938. This was too small a sample, and the material in it was unidentifiable. However, fourteen were collected during the summer of 1938. Wild cherry pits and skins were the most abundant material in these; remains of this fruit making up 91.3 percent of the total volume. Six other items were recorded, but they were almost incidental. Six droppings were collected during the fall and winter of 1938; in these, acorn remains constituted 66.1 percent of the total volume. A light crop of beechnuts was produced in 1938 and this was reflected in the food as 6.4 percent of the material consisted of the remains of these nuts. One scat contained fragments of a cottontail which made up 9.7 percent of the total volume.

The fruit of shadbush, together with insects, constituted the bulk of 1939. In 22 collected during the summer of 1939, wild cherry fruits led the list of foods, with a percentage of 51.1. Acorns also contributed heavily to the diet as their hulls made up 33.7 percent of the volume. In 28 collected during the fall of 1939, acorn remains constituted 55.4 percent of the total volume. That year the beechnut crop was spotty, being good in few areas, and only 20.4 percent of the volume was composed of this food. Some wild domestic apples were eaten, also, as a pomace made up 12.3 percent of the volume.

In seven scats that had been dropped in the spring of 1940, acorn remains made up 44.7 percent of the volume and white-tailed deer hair made up 23 percent. The deer occurrence probably represented carrion, for many of these animals died of starvation during the previous winter. Analysis of eight droppings collected during the summer revealed that wax and bees constituted 34.5 percent of the volume. Woodchuck remains made up 17.2 percent of the volume; wild cherry, 15.8 percent; blackberry seeds, 13.8 percent: and wild domestic apple pomace, 9.6 percent. In obtaining apples from trees, the bear usually does a crude job of pruning; the feeding bear pulls the branches in to the tree, twisting, bruising, and breaking them. Corn was recorded only once and then as a trace, although each year the Commission gets reports concerning bears that learn to eat and like ear corn in the milk stage. Bears acquiring the corn-eating habit do considerable damage to cornfields in some areas.

Fifteen fall and winter scats were collected in 1940. The apple crop in 1940 was one of the greatest in the history of apple raising in Pennsylvania and the wild trees likewise produced an abundant crop. Wild grapes were also abundant in 1940. Remains of these two fruits made up 31.1 percent and 34.5 percent, respectively, of the total volume of the above mentioned droppings. The acorn crop was light and the remains of acorns composed 23.6 percent of the volume in 1940. The hair of white-tailed deer made up 5.3 percent of the volume. The deer in this instance too were probably eaten as carrion.

R. L. Watts collected six freshly dropped scats in Aroostock County, Maine, in October 1938. The remains of beechnuts made up 61.1 percent of their volume. The bulk of the residue consisted of unidentified vegetation and grasses. It is interesting to note that only 6.4 percent of the volume of Pennsylvania bear droppings was composed of beechnuts that fall and winter. This merely points out the fact that certain food species may produce heavily in some areas and, at the same time, be almost absent in other regions. Other investigators, in reporting on the foods of the black bear on the George Washington National Forest, Virginia, during November and December 1935-1938, did not record beechnuts, but reported acorns as the most often taken food.

Three bear stomachs were collected in Pennsylvania in November, 1939; four more were collected in November, 1940. No conclusions can be drawn from such a small series, but an analysis showed that acorns constituted 55.6 percent and deer remains 43 percent of the volume.

In their summation the authors present the following interesting picture:

The material found in fall and winter scats, 1937-40, included acorns, 36.3 percent; beechnuts, 31.1 percent; apples, 10.9 percent; and wild grapes, 9.2 percent.

Material collected in spring was not sufficient to warrant discussion.

(Continued on page 30)



Photos from a 35 mm movie by R. T. Leiter.
The feeding bear pulls the branches in, twisting, bruising and breaking them.

Wildlife Conservation— Its Past, Present and Future

Continued from Last Month; to be Concluded Next Month.

By William Grimm

X. What About Predators?

PERHAPS the most controversial subject in the whole field of wildlife conservation is that of predators and the effects of predation. Opinions regarding the subject are voluminous but many, if not indeed most of them, are either entirely biased or founded upon far too little factual evidence. Predator-prey relationships are not at all completely understood, even by the best trained wildlife biologists.

Many theories have been advanced to explain the function of predatory species and their relation to other forms of wildlife. Most of these, however, are supported by few actual facts and very little scientific evidence. Some claim that predators play an important role in the "balance of nature"; that predators are an important factor in controlling and limiting animal populations, thus preventing a species from becoming overabundant. Another explanation is that predation is highly selective; that predators render a sort of special service to the species preyed upon by the removal of the sick, and weak, and incompetent individuals and that the virility of the flock or herd is thereby maintained at a maximum. There may be some sound reasoning behind all of these theories but so far none of them have actually been proven scientifically.

Strictly from the biological viewpoint every living thing has its place in the world of living things. There is no good or bad among them. Each and every living thing fills its own little niche in the whole picture of life, or "web of life" as it is often called. There can be no doubt that predatory animals have a place in this natural set-up; that they perform certain definite functions and perform useful roles under strictly natural conditions which are not disturbed by man. Man, however, has vastly altered many, perhaps even most, of the original ecological relationships. He has, over large areas, greatly decimated or even wholly eliminated the original wild herds of mammals and the huge flocks of wild fowl. He has largely replaced these wild species with his domestic herds and flocks upon which he depends for a good share of his living. From the human point of view the wild birds and mammals, and all other forms of life as well, have come to be looked upon as being either "beneficial" or "injurious" according to how they affect man's own livelihood or interests.

There are a few persons who look upon predators with purely sentimental reasoning but the majority of us are entirely too prone, and too quick, to condemn all predators as "enemies". If a hawk or a weasel happens to kill some of the members of the barnyard flock the average farmer is unhesitant about condemning all hawks and weasels. Similarly, the average hunter, upon witnessing any act of predation upon a game species, is quick to condemn all predatory species as "vermin". The fisherman quite often looks upon the fish-eating species as serious menaces to fish life and blames them for his inability to catch a full creel. It is often so easy for us to put the blame on predators that we overlook the really vital factors which contribute to so much of the poor hunting and the poor fishing. During recent years many scientific investigations have been made in order to determine those factors which are largely responsibile for local failures of various game species. In not a single one of these was it proven that predators were a serious factor in limiting the population of a game species but in nearly every case it was proven that the carrying capacity of the land was the primary factor.

Extensive studies made by Dr. Paul R. Errington on the Bobwhite quail, both in Iowa and in Wisconsin, have proven that winter survival of these birds very largely depends upon the presence of an adequate supply of natural food and cover. It is only when the quail enter a winter season with a population much above that which the land can safely carry that losses from predation are heavy. Furthermore these studies have revealed the fact that this surplus population would be removed by other natural factors, such as disease, if it were not removed by predators. Many other scientific investigations, based upon studies of other species, have resulted in practically the same conclusions. If any population is safely within the carrying capacity of its

(Continued on page 31)



Most hawks are beneficial.

History of the Ringneck Pheasant in Pennsylvania

By Col. H. W. Shoemaker
State Archivist

A MEMBER of the Blair County Game, Fish and Hunting association writes as follows: "I read with interest your comment on the introduction of ringneck pheasants in Pennsylvania. The data was locally correct, but there was still much that might have been added. It is interesting to note that the first ringnecks were brought to the United States by a Pennsylvania sportsman, Richard Bache, a nephew of Benjamin Franklin's wife, about 1820, and liberated at his estates on the New Jersey side of the Delaware river. The experiment failed, for the same reason as the first planting in Clinton county, Pennsylvania, previously mentioned in your column, they were released in thick woods. The ringneck as all know today is distinctively a bird of the open fields.

No more attempts were made as far as any record is kept, until 1887, when Rutherford Stuyvesant, a New York sportsman, successfully liberated a crate full of birds from England on his estate, "Tranquility lodge," Allamuchy, in northern New Jersey. The last wild pigeons had disappeared from the estate only a few years before, and a new species of game was badly needed. Mr. Stuyvesant placed the ringnecks in charge of a Braw Scot, Donald Mac Vicar, former head gamekeeper for the Duke of Leinster, in County Kildare, Ireland.

"As Col. E. A. Quarles in his great book 'American Pheasant Breeding and Shooting,' published in 1916, says, 'Mac Vicar, after repeated attempts and many discouragements finally succeeded in establishing ringnecks in this country. After the experiment was a proven success large importations of ringnecks were made by a firm of live-game dealers, Messrs. Wenz and Mackennsen located at Yardley in Lower Makefield township, Bucks county, across the Delaware from Trenton, N. J. This was first done about 40 years ago, and a few of the birds escaping established themselves in the locality, but were not hunted.

"In 1915, the late Dr. J. H. Kalbfus stocked Bucks county with ringnecks as a result of his observations on the thrifty condition of the escapes from the Wenz and Mackennsen pheasantries. So well did these birds thrive that from 1920, when ringneck hunting was first permitted in that county, down to the present time, it has been regarded as the banner ringneck county of Pennsylvania. The first ringnecks released in Bucks were imported directly from England of the hardiest blood available.

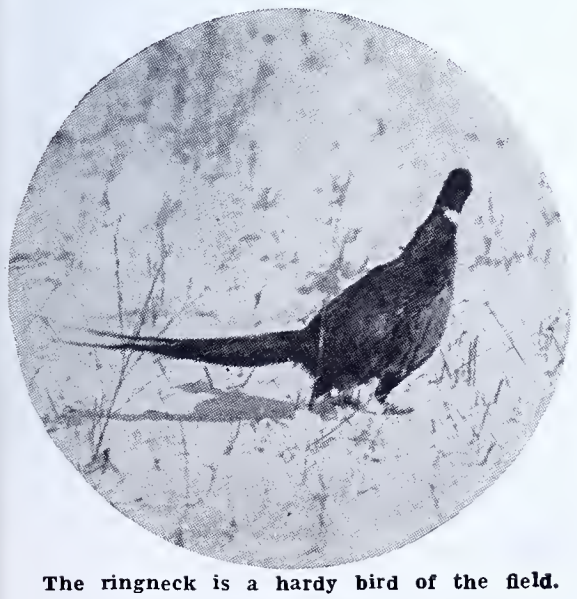
"Other releases of imported birds and purchases from Pennsylvania dealers followed the original stocking of 1915. The county was kept closed, however, and the birds absolutely protected until 1920. And 'within five years from the day when the first bird was let out, the shooting was simply fine,' state game protector Warren Fretz once told me.

"In 1923 the legislature at Harrisburg passed a law protecting hen ringnecks. In 1931 it was reported that 30,000 ringnecks were shot in Bucks county; by 1941 the kill exceeded 50,000. New blood has been introduced in Bucks almost every year and birds have been trapped and redistributed throughout the county annually since 1931.

(Continued on page 31)



Pheasants in holding pen of John Decker, President, Glen Rock Fish and Game Association, Glen Rock, Pa. In the past several years Mr. Decker has been raising 95% and 96% of the chicks contributed by the Game Commission.



The ringneck is a hardy bird of the field.



Ringnecks in holding field at the Commission's game farm at Loyalsock, Lycoming County.

HUNTING SCENE

*By Bill Driscoll**

THE little farmhouse was a welcome sight indeed. The young hunter was footsore and tired and so was the ancient hound dog that limped along at his heels. It was bitter cold and the animal's feet were cut from quartering over the frozen ground. From time to time, the hunter picked him up and carried him for a space; wrapped around his neck like a fur piece.

There was no wind and the pungent smoke from the chimney climbed straight up into the steely sky like a stroke of white paint on a canvas. It was a neat little place of white-washed stone, enclosed by a white post-and-rail fence and huddled together with the usual assortment of barns, sheds and coops. Everything spick-and-span and altogether inviting. The hunter quickened his steps, hoping, yet wondering what kind of reception he was about to receive. He picked up the dog again, curled around his neck, shrewdly figuring on the sympathetic effect.

There was a front door to the place, but something about its glistening neatness indicated it was seldom used. There were no dark marks, for instance, around the wrought iron handle. There were no marks, either on the white steps leading up to it. The hunter walked warily around to the back, expecting the usual watch dog to spring. But nothing happened. There was a dog, to be sure, a big airedale, but he was chained to his kennel and did not seem unkindly disposed, anyway; sort of like he was used to company.

The hunter noted all this with satisfaction. So far, so good. He knocked politely at the back door, one of those old-fashioned Dutch doors that open in halves, top and bottom. The top half presently opened.

The hunter was not quite prepared for the greeting.

"I was expecting you," the voice said. "I saw you walking across the field."

The hunter struggled to take off his cap, a somewhat awkward procedure, what with the dog around his neck.

"How do you do," he stammered. "I'm pretty tired and cold and I was wondering . . ."

"Of course, of course, come right in."

It was a beautiful young girl, of course, the kind of beautiful young girl who always pops up in stories like this. And, as usual, she was slim and dark with the inevitable dancing black eyes. She wore a flouncy gingham dress, all trimmed in red and so neatly pressed you'd think she had dressed just for this occasion, inasmuch as the hunter was not such a bad-looking youngster himself in his trim hunting outfit and red hat.

Just in Time for a Bite of Lunch

"Br-r-," the hunter said with a grin. "Cold."

"Yes," the girl agreed. "I've been piling wood into that chunk stove all morning."

The hunter glanced at the clock. The girl smiled.

"You are just in time for lunch," she said. The hunter smiled back.

"Mind if I let the dog lay here on the rug?" the lad said. "He's not very dirty."

"Please do," said the girl. "He looks silly wrapped around your neck like that."

"You mean I look silly."

The girl indicated that might be the general idea. As she busied herself at the stove, the hunter put the dog down and took off his coat. He looked around the place. It was anything but a typical South Jersey farmhouse. Aside from the chunk stove, which was dictated by necessity, the place looked like something you'd find in Germantown, say, or New Hope, Pa.

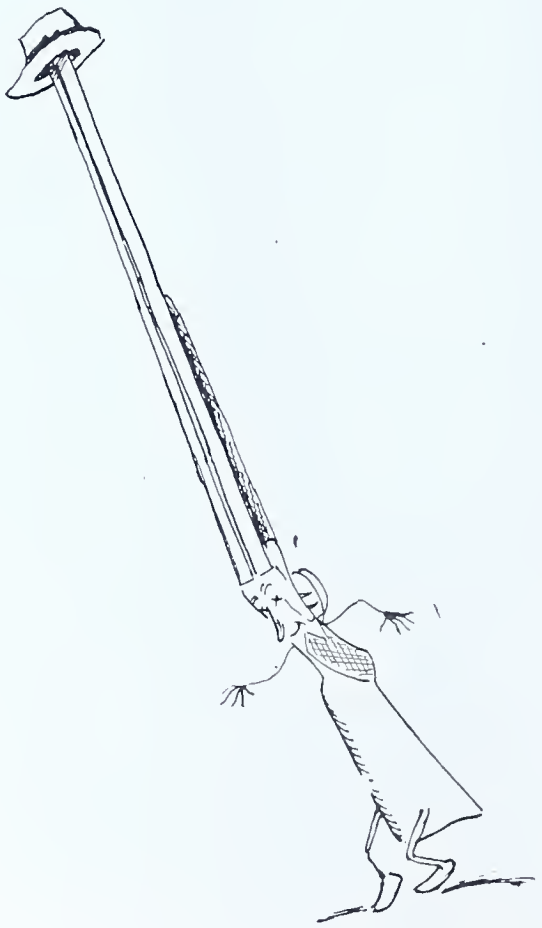
The furnishings were antique, from the andirons at the fireplace to the hand-carved cuckoo clock on the wall, which, even as he was looking, started to proclaim the hour of noon. The hunter was startled and he showed it as the cuckoo suddenly popped forth with its attendant whirrs and whistles.

The girl laughed.

"A fine hunter," she said, with a gun and a dog and everything, to be scared by a little cuckoo."

"I was afraid the thing was going to swoop down and grab me in its talons," the lad laughed back. "It looks vicious."

"It scares me too, sometimes," she confessed, "when everything is quiet and I'm thinking hard about something. Dad got it in Bavaria a long time ago. You see," she confided, "he's a little deaf."



"You forgot your dog . . . and your gun!"

"Well," the lad could not help thinking, "that's something. But where the heck is he?"

"I don't expect him home for lunch," the girl remarked. "He went to town this morning to try to sell one of his pictures."

The hunter looked up quickly. Was the girl reading his mind? No, she was busily fussing around with the pots and pans at the stove.

"He's an artist," the girl said.

"So am I," the hunter laughed, "a cauliflower artist."

The girl turned around, questioning.

"A prize fighter," the lad explained, "until I get into the service."

"You don't look like a prize fighter," she said. "There's hardly a mark on your face. I might even say you're handsome, in a rugged sort of way."

The lad grinned wryly. "Lucky," he said.

"You don't talk like a prize fighter, either," the girl added.

"Took it up in college," the hunter explained.

"You must be pretty good at it."

"I've made a little," the laid said simply, "and I've put a little away. This war won't last forever and I expect to go back to school."

The girl looked at him with interest.

"How are you as a hunter?" she said by way of changing the subject. "Catch anything?"

"No," he confessed. "All I got was a pair of sore feet and a terrific appetite."

"That's strange," the girl said. "This place is full of rabbits and pheasants. Only yesterday I saw two cockbirds and a hen in the well field."

"I didn't see a thing."

"After lunch," the girl offered, "after the dog is rested, I'll take you down there and show you. I hate to see you go home empty-handed."

Um! Fried Ham and Potatoes, Too

By this time, the room was pungent with the essence of ham and fried potatoes, hot rolls and coffee. The hunter breathed it in greedily. The girl watched with quiet satisfaction as he strove to keep himself from bolting the meal like a starveling. Thoughtfully, the girl fed the dog, too.

As he sipped the last drop of coffee, the lad leaned back in his chair and stretched lazily.

"I don't know how to thank you," he said. "But that was the nicest meal I ever had. Mind if I smoke a cigarette?"

Of course she didn't mind. The girl lit one herself.

"Now," she said, as she crushed out the butt, "want to take a look at that well-field?"

"Let's go," he said, grabbing his hat and coat; eyeing her as she donned her own. "I can't wait."

The girl led him down through the barnyard and climbed nimbly over the fence. They walked across a wide meadow and up

(Continued on page 31)

* Sports Editor, *Philadelphia Record.*

Big Game Feeding vs Forest Fires

A Story of Conditions in the Sproul State Forest

By Chas. Hogeland

(Photos Department of Forests and Waters)



General view of Hall's Run, Sproul State Forest.

THE right to possess firearms and to hunt are peculiarly American heritages which have helped to make America a strong, outdoor nation. Let's keep these privileges. But without game they would largely be meaningless. Game must eat. To eat there must be food, and that food should be of the right kind, and available when needed. I believe the sportsmen's program of cutting browse for deer at such times as it is needed is sound. Our Department and our men have cooperated in local projects of this nature heretofore and will continue to do so.

There is another phase of the problem upon which I should like to touch. The recent big game season, as we all know, was relatively poor. I do not recall ever having seen so many miserable racks. One of the results of all this has been increased talk suggesting the desirability of forest fires. That, in the writer's opinion, is just loose talk. I doubt that there is an honest-to-goodness sportsman who would intentionally or carelessly set a forest fire. To do so would neither be good sportsmanship nor good citizenship, and certainly not in the interest of game generally. The possible unfortunate result of such loose talk is the likelihood of some half-baked individual putting the thought into action.

Let's put first things first. Just now wood is vitally important to winning the war. It is, in fact, so essential that lumbering has been declared a critical industry. The need for timber is such, and I quote from a recent address made before the American Federation of Labor, that, "more special consideration and action have been given to maintaining lumber production than to any other material with the possible exception of non-ferrous metals." During the past month, at the request of the Timber Production War Products branch of the War Production Board, the writer, and other foresters of Pennsylvania and other states, have been calling upon lumbermen and sawmill operators urging and assisting them to increase production. They are responding. In meeting this expanded and urgent need, however, we are using up our timber faster than it is being grown.

"What has this got to do with burning young growth," someone may ask. Just this. A single fire may kill all young forest growth up to fifteen or twenty years of age. That means, sixty years from now there will be no trees reaching maturity on that area for a period of fifteen or twenty years. Repeated burns extend the period of unproductivity. Who among us is bold enough to say there won't be another war sixty years from now, when our very survival as a nation may again be at stake. Let that man toss the first match.

The writer believes we are just at the threshold of a new era of wood. Farseeing industrialists are planning for it. Wood plastics—what unpredictable potentialities they hold for our future welfare. The mines in this locality likely will be pretty nigh exhausted when the present conflict is over. What industry will there be left for this mountainous section if our forests are not permitted to grow? Our future prosperity, if not our very existence as self-supporting communities, is inseparably bound up with our forests. In all good sense don't let's kill the gosling that in nature's own good time will lay the golden egg.

According to recent newspapers our Governor in planning for postwar projects has emphasized reforestation. He is concerned with, and in a sense responsible for, the future econmic welfare and development of our great Commonwealth. As good citizens all, let's deal constructively, not destructively, with this one of our greatest natural resources. As one means to this end forest fires must be prevented, or extinguished promptly. Need I remind you that there are no longer many young men left for fighting forest fires, not even in our local high schools. Hence the job is quite likely to devolve to a large extent upon our local sportsmen. "A word to the wise is sufficient."

"Well," you may say, "this isn't getting the deer fed." In the words of the popular song, "Mares eat oats; does eat oats; and little lambs eat ivy." To enter the winter season in a good, strong, healthy condition deer should have plenty of nutritious foods. Acorns, for instance, are an excellent ration and during the winter deer will paw through the snow to find them if it isn't too deep or too crusted. Supplement this and other rich, heat-giving foods, when weather conditions demand, by cutting browse of aspen, red maple, and other inferior timber trees, or by putting corn on the ear, or maybe a little scratch grain beneath an evergreen tree in a sheltered spot, preferably on the sunny side. Apparently deer will stay on the sunny side and starve rather than wade through deep snow on the shady side where there may be an abundance of nourishing browse.

Don't, for the sake of other game, cut such species as Juneberry, dogwood, or others which bear game food. Lower limbs may be removed from larger trees providing it is done with a saw.

(Continued on page 32)



A single fire may kill all young forest growth up to fifteen or twenty years of age.



Picture of an otter. The otter is the beaver's worst enemy.

In Pursuit

By S. V. Sedlak

THE break of day on the third morning of the beaver season had blossomed forth with all the aspects of proverbial springtime. Rain was pitter-pattering on the tar-papered roofing overhead and it was so nice and comfortable in the bunks. However, the time showed that light was filtering in through the rain-flushed window panes and, cramped with stiffness as we were from the preceding day's arduous tasks, we mustered the courage to get up to prepare for another tramp over the trapline.

Hot coffee and hot cakes put the zip into us again and Joe and I felt as fit as a fiddle and speculated on the day's prospects. It was still raining, and a glance outdoors convinced us that it was going to keep on raining. To cuss the weather and mope in camp wasn't going to do us any good so we hit the beaver trails once more. At intervals the refreshing raindrops came down in torrents but did not dampen our ardor.

As on the previous day, we proceeded to Shield's Dam first. Upon approaching it I noticed the fresh tracks of two men who had braved the inclement weather, presumably in quest of beavers. For a moment we paused to scan the surroundings to see if they were about, but we neither saw nor heard anyone within range. We went on, and when we reached our first destination we found that the traps about the big dam had been rendered useless. The all-night rainfall and the heavy snows that were melting away rapidly had swelled the waters even beyond expectations and the roily, turbulent currents had inundated the sets so it was difficult to locate them. That, of course, meant that there would have to be some revamping of the toe pinchers again to conform with the new water levels; and when that was done we went on up Six Mile to the place where we had bagged two beavers on the previous day. There, too, the seething waters had played havoc with the various sets and adjustments were made. Returning back toward our camp we met the two young men who had dared the stormy weather to compete with us for the flat-tails of Six Mile Run.

Up along Corbin, the tributary of the larger stream, we heard the familiar slap of a beaver tail as we approached the vicinity of the last three sets we had to inspect. There we came upon the one and only catch of the day, an adult beaver. In another few minutes we were back in camp, stripped the wet clothing off and put on some dry, comfortable garments.

At about noontime the rains stopped but the sky was still darkened with heavy, threatening clouds such as might burst into a deluge of more rain at any moment. When several more hours had passed and dusk was commencing to creep over the tranquil woods, I heard voices out along the waters of Corbin and promptly decided to investigate. I noted that three more men were stringing out a trapline for beavers. These fellows lacked the setting technique because I noticed their sets were made in haphazard ways. And with darkness coming on fast they were apparently intent only in disposing of the steel; it didn't matter how, just so they got rid of the traps. So foolish, I thought. You can't go out and just throw traps here and there, and then expect to catch beavers. In the game of trapping, as in anything else, one must use good judgment if he would be successful.

On the next morning (Sunday), after having completed the course of our line and catching nothing, we took time out to attend Mass at the Wolf Rocks C.C.C. Camp which was situated farther out at the head of Six Mile Run, approximately a mile beyond the end of our trapline. This was the Lord's Day and it was only proper and fitting that we should devote a little time to pay homage to Him, the Creator of all things. Like scores of others of the Camp personnel we knelt in solemn silence during the intonation of the service for the brief period of a half hour or so, and then the kid brother and I hiked back toward our quarters on Corbin.

Along the way we were deeply impressed by the stillness that prevailed, the vivid billiancy of the morning sun that pierced through the scattering gray clouds above us, the radiant warmth that kissed the woodland country and the cheering twitter of the song birds that enlivened the adjacent hillsides—all were harbingers of another Spring. What little was left of the deep snow that had fallen a week previously was now melting away fast. It crackled under the impact of the warm, penetrating rays that beat down from the clearing sky and little rivulets of water trickled everywhere.

We were about to cross over a beaver channel near the confluence of waters above Shield's Dam, and as I riveted my eyes to a slippery log that bridged the little chasm and started to walk over it, Joe's canny vision detected something. With a startling exclamation that almost caused me to lose my balance he yelled "Hey, look here!" "Look at these fish!" he added.

For a moment I thought we were imagining things but we were soon convinced that it was reality—scores of dead fish, most of them trout and suckers ranging in size from fourteen or fifteen inches down to the smallest fingerling. They were afloat in the stagnant



A beautiful winter scene in the Black Moshannon section.

of Beavers

CONCLUSION

(Photos by the Author)

ice-caked water that smelled of strong, offensive odors. Under the loosened, fragile ice there were more and still more fish, and our estimate was that there were at least 200 of the finny creatures huddled up in death in the natural trap that spelled their demise so prematurely.

It was easy enough to see how they had met their tragic end. There was a bottleneck at the flow-in of the channel, while at the point where we were about to cross on the log an entanglement of beaver work and debris had blocked the way so the fish could not go out. We surmised that when the neck had frozen up tightly at some previous time these fish had become landlocked and probably stayed that way for several weeks. I picked up several of the larger ones with the thought of showing them to a game or fish officer if, perchance, one came along. Meanwhile, two more trappers made their appearance in the beaver haunts and we told them of the fish trap.

The unseasonal warmth continued to beat down on our woodland environment. We spent the greater part of the afternoon reading and relaxing at the camp. Then Joe decided that we ought to have more grub so he planned to go out after some. A book kept him occupied for sometime and it was evening before he finally got ready to shove off. He gave the crank of the old Ford a turn or two, and I watched him from the doorway as he ascended the muddy ridge road a stone's throw away from where I stood. The car groaned and groaned more, and for a minute it looked like a futile try; the mud was probably several inches deep and even with the aid of the tire chains the climb had the aspects of failure. Soon, however, it disappeared over the crest of the hill. There was one more short but rather steep grade on the road about a half mile further out but I felt certain he'd get over that okay.

After Joe left I took a stroll along Corbin Run to see if any game was on the move. As I stepped along from tie to tie on the abandoned tramroad that paralleled the waters my thoughts drifted back to the earlier years when otters and panthers used to live in that neck of the woods. I recalled that "Putt" McCord and Port Bilger had taken the last surviving otters of that section in or about 1922 when I was just a practical beginner in the trapping game. Nearly one hour had passed and I turned around to retrace my steps back to the camp. As I drew closer to the shack I noticed that the kid brother was coming down to meet me. "Well!" I thought "he couldn't make the second hill after all."

"Listen," with a disconsolate expression written all over his face he said "I couldn't make the other hill so I had to turn around and come back, but a bunch of guys are at the camp and they told me that we better pack out. They claim it's their camp and they came in from some western county to trap beavers."

"Is that right!" A sudden gloomy feeling gripped me.

We hastened our pace and got to the camp in pretty short order. We walked in. I surveyed the situation momentarily—

"Howdy, gentlemen!" I greeted them.

There was no response. One, the youngest of the group of three, was cooking a meal; another, a short and chunky fellow of about twenty-five was sweeping the floor; and the third, a man who was up in his thirties, was hammering away at a nail in the wallboard ceiling.

"Boys, I'm sorry that—"

"Who told you that you could use our camp?" the chief, the eldest of the trio, interrupted with a very pointed quizz.

I answered that the Ranger had sought permission for us and that he had gotten the desired permission from a higher ranking authority of the camp club and that, therefore, we had a legitimate right to the use of the place.

The quarrel went on for several minutes and when the ire had tempered somewhat I asked the chief whether I could stay there the one night since the kid brother was going to go out after some more grub.

"No," he said "you get your stuff together and get out."

Well, at least we were fortunate in that Joe couldn't make the second hill and was forced to return. Then we started to pack up.

"We will go to the White Oak camp," I told the kid brother "and then you can go right over the new road on which these toughies came in."

While we were still loading our belongings into the car a group of three men arrived on the scene and one, who identified himself as a deputy game protector, asked what was going on. So I explained.

"You may use our camp," Crosvelt, the deputy stated. I said that was just where we were about to head for. I showed the game officer the string of fish and explained the story about them, and pretty soon the short, chunky lad of the invading party started popping off that "there's a hundred dollars fine, etc." In order to pacify the pugnacious boy the warden asked one of us to show where we had gotten the fish. Joe accompanied the protector while I finally cleaned

(Continued on page 29)



These are some of the beaver pelts taken from Corbin and Six Mile Run waters.



Two large beavers taken in Sullivan County by Earl Ward in February, 1943.

Land Classification as a Tec



Several land use classes are shown in this scene. In the foreground and on the top of the distant hill is shown Class III land which requires contour strip cropping and usually some additional supplementary practice such as diversion terraces in order to maintain it in cropland. Steeper land such as that in the bottom of the valley is suitable for grazing as its most intensive use and falls in Class VI. The band of very steep land across the middle of the far hillside is Class VII land and only adapted to production of woodland wildlife. The conversion in this instance had already been made by reforestation.

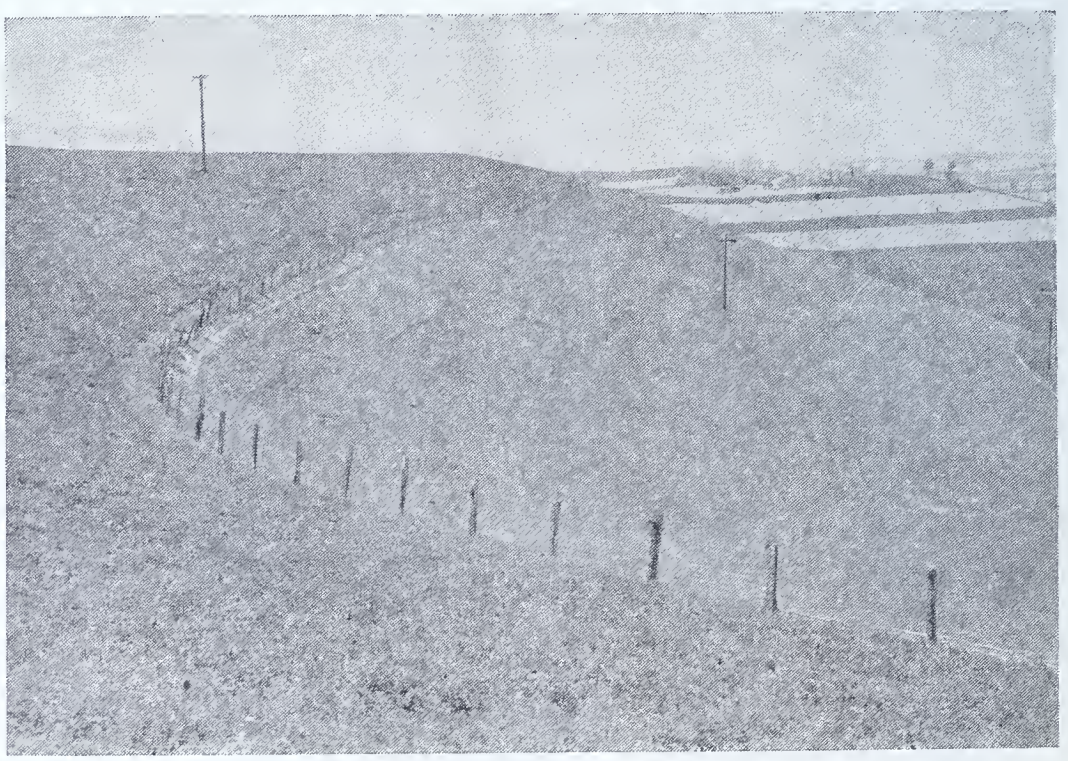
Editor's Note: The following articl applies principally to wildlife technicia to those landowners who are cooperat author, Edward H. Graham, Chief, Bio D. C., knows the answers to the land cl would permit using his entire paper, w American Wildlife Conference. This is a trick if you don't read it.

LET us look briefly at the factors considered in determining a class of land. Class I will serve to illustrate. It is first of all land highly suitable for cultivation, for it does not have a permanently high water table; neither is it stony or spotted with rock ledges, nor does it possess any other physical characteristics which interfere with the use of tillage implements. Furthermore, clean-tilled crops like corn or cotton that are often likely to result in soil washing, can be grown on this land without danger of appreciable accelerated erosion. Finally, it retains and supplies sufficient moisture and plant nutrients to maintain those physical, chemical, and biological conditions of the soil that favor continued production of moderate to high yields of farm crops.

Just as there is some land admirably suited to tilled crops, so, on the other end of the scale, there is some land for which the best use is the production of wildlife. This is Class VIII land. It embraces some extensive expanses of salt marsh and many smaller stretches of freshwater marsh which will not become permanently productive crop land if drained. It also includes gullies, sand dunes and acid bogs. These areas are usually large enough to be mapped on a scale useful for planning individual farms and ranches but, unlike many other classes, there are a great many parcels of Class VIII land too small to be shown on a map of practical scale. The wildlife manager should remember that the concept of Class VIII land is far more important to him than its delineation on a map. It is his task to recognize such areas, whether mapped or not, and to plan their most appropriate management. That they are usually interspersed through areas of different cover type is all to the good.

Areas of Class VIII land frequently unmapped are escarpments and rocky outcrops, riverbanks and streambanks, irrigation and drainage ditchbanks, highly alkaline areas, and badly eroded spots. Such areas are widely scattered and many of them are small although in the aggregate they loom large. Recent estimates indicate that on the farms and ranches of the United States, areas of Class VIII, or "wildlife land," that are large enough to be readily mapped add up to no less than 33 million acres—an area as large as the entire State of New York (Bennett, 1942; Davison, 1942). It may be added that, in so far as their profitable management is concerned, streams, ponds, and lakes should be looked upon as Class VIII "land," for they are best adapted to the production of a crop of wildlife.

It is with this class of land that the wildlife manager has his prime responsibility, for it is his task to make these lands as productive as possible. It would be a waste of labor, machinery and materials to try to till these lands or support pasture vegetation on them, and they are usually small, infertile, or otherwise unsuited to the productive maintenance of woodland. Yet in any land management scheme that attempts to use all the land wisely, these areas must not be neglected. The crop to which they are best adapted is usually some sort of wildlife. Many upland game birds and small fur bearers can be benefited by the substitution of useful perennial plants for useless or weedy species, or the protection of existing desirable vegetation on such sites as: (a) unproductive strips between woodland and crop fields, (b) roadsides, (c) fence rows, (d) gullies and other eroding areas, (e) highly alkaline or otherwise infertile odd spots, (f) irrigation and drainage ditchbanks, (g) spoilbanks, (h) streambanks, (i) marshes and swamps which cannot be economically drained, and (j) rocky outcrops and escarpments.



The two fields in the foreground are in hay and pasture. The upper field is in Land Class IV, which is used most intensively for hay production with only occasional ploughing in contour strips for reseeding purposes. The steeper land below is in Class VI and can be used only for pasture or for woodland if the pasture is not needed. In the far distance is an area of Class III cropland that has been laid out in contour strips.

ique in Wildlife Management

orth everybody's reading even though it ners. We would recommend it especially Commission's Farm-Game Program. The n, Soil Conservation Service, Washington, problem if anyone does, and we wish space ed in the Transactions of the Eighth North aty part of it, however, and you will miss

(Photos courtesy U. S. Department of Agriculture)



The topography in this field is so rough and soil of such a nature that it cannot be used satisfactorily for cropland. It falls in Class VI which may be used for grazing except for the large gully in the middle background. This is Class VIII land since it is not suited to cropland, pasture or woodland and is primarily useful as wildlife habitat. In this instance it has been fenced and planted to a woody cover.

Although "wildlife land" is that on which the wildlife manager has primary technical responsibility, he cannot rightfully neglect other classes of land. For those lands which are devoted to the cultivation of tilled crops, i.e., Classes I, II, III, and IV, there are wildlife management practices which can be established as integral parts of the land pattern. For Class I land hedges are frequently applicable; for Class II land drainage and irrigation ditchbank management; for Class III shrub buffers for wind erosion control as in the Great Plains; and for Class IV pond management measures. There are some types of Class I or Class II lands so intensively used for crop production, as the blacklands of central Texas, where fences, field boundaries and woody plants are absent, that the wildlife manager can contribute little or nothing to them, but they are rare. Classes V, VI, and VII are dedicated either to pasture (or range) or to woodland. Wildlife management practices applicable to grazing land or woodland are, therefore, applicable to these classes of land. On all of these the biologist must work closely with other land management technicians—farmer, agronomist, range manager, forester—and fit his recommendations into those for the primary use of the land.

There are many ways in which the wildlife technician can work with the land operator to obtain conditions suitable to wildlife. The farmer may be willing to defer pasture grazing until quail have hatched, or purposely preserve den trees for raccoon in his woodland. Measures that are of especial value to wildlife production, however, consist more importantly of so-called wildlife management practices, which can usually be related to land classes or groups of land classes. Table 2 shows a few such practices and the land classes to which they are most applicable. We need still more experience to be very specific about such a tabulation, but it serves to suggest that even though some wildlife practices are limited to Class VIII land, more intensively used land classes can also support practices useful to wildlife. Such wildlife practices, of course, must contribute to or be compatible with the other land management practices employed.

Thus a systematic consideration of land serves to give the wildlife manager, like other land management technicians, a picture of the job he has to do. It serves as a foundation upon which he can build the quality and intensity of his work. The wildlife technician must weigh the results of his efforts on each class of land against the time, funds, and material devoted to making each class productive of wildlife. It frequently happens that certain types of Class VIII land, upon which the wildlife manager has prime responsibility, produce less wildlife, per dollar expended upon them, than Class I or Class II land, upon which the biologist treats comparatively little acreage. For example, the very high populations of ring-necked pheasants in northwestern Ohio where grain and corn fields extend endlessly across a flat expanse, produce high wildlife returns on intensively cultivated (Class II) land where the wildlife manager has expended little effort. The pheasants nest and find shelter along the vegetated drainage ditchbanks from which they can forage into the fields for the spare grain which serves them as food. Class VIII land itself varies in productiveness, for muskrats from a tidewater marsh provide greater economic return than shorebirds on a coastal beach. The latter, of course, may have compensating values of a less tangible nature, as satisfaction to bird lovers. It is for the land management biologist to determine the opportunities the land affords in the way of wildlife habitat, whether it is devoted primarily to the production of clean-tilled crops, pasture, or woodland, or is to be devoted entirely to whatever wildlife it can economically be expected to provide.



Large streambanks are one of the examples of Class VIII land—that which is not suited to the production of cropland, grazing or forest. Here the cover that is needed to control the river bank is primarily useful to produce wildlife as a crop.

(Continued on page 28)



☆ WITH THOSE IN THE SERVICE ☆

"Since leaving Harrisburg to go into the Navy in the summer of 1942, I have enjoyed greatly receiving at various times letters and postcards from many of the Commission employees. The numerous Christmas cards were especially appreciated. I regret it has been impossible for me to reply to many of those who have written me.

"In view of the facts just mentioned, I am writing this hoping that you may be able to find space for all or a part of it in the GAME NEWS so that I may thus have an opportunity of saying hello to my fellow workers both abroad and at home.

"As you know, I came directly from Harrisburg to Seattle and have been stationed here ever since. My duties have been concerned with aviation physicology for the most part. Our primary concern is with the effects of high altitude flying upon the human body. Working both here and at the Boeing Aircraft Company, we have been studying and teaching flight personnel the environmental factors, principally reduced barometric pressure (which demands the use of oxygen) and low air temperatures (down to 55° below zero), encountered at altitudes up to 42,000 feet. In some cases, actual aeroplane flights are made, but most of this work is done in specially constructed chambers equipped with vacuum pumps and refrigeration machinery which allow for simulation under absolute control of the conditions faced at practically any desired altitude. In many respects, they are similar to the equipment which the Commission has at the Loyalsock Experiment Station. Unfortunately, I am not free to discuss the details of this work.

"As you can well imagine, practically all my available time off has been spent enjoying the outdoor features here in the Northwest. I have had some fine fishing for salmon, steelheads (which are in reality sea-run rainbows) and trout. I caught one king salmon over 40 pounds in the mouth of the Columbia River last fall, as well as a number of steelheads over 10 pounds in some of the nearby rivers. Then too, I have experienced some excellent small game hunting. In the Puget Sound area here west of the Cascade Mountains, ducks, brant and geese are the principal species encountered, while east of the mountains in irrigated sections, excellent pheasant, Hungarian partridge and quail shooting as well as duck hunting is to be had. The big game includes elk, deer and bear in good numbers.

"Except for Dr. Gabrielson and Senator Wolcott, who stopped here last fall on their way back from Alaska, I have seen none of my old friends out this way, but I have enjoyed making the acquaintance of a number of the federal and state game men working in these parts.

"Hoping that 1944 will see the end of the war and with best wishes to all." — DICK GERSTELL, *Lt. Sr. Grade, U. S. N., Seattle, Washington.*

"Here's a letter from the Southwest Pacific and from a GAME NEWS reader unknown to you. Incidentally I received the October issue several days ago and must say that it arrived here on time.

"It certainly gives me great pleasure to read the various articles, stories and the letters from the 'men in the Service'. I am also pleased in the way you keep a fellow posted on the animal life in Pennsylvania.

"A fellow doesn't realize what a wonderful state Pennsylvania is until he's seen the islands out this way—that is speaking in terms of wildlife. I've been kicking around the various islands for quite sometime and as there are quite a number of them out this way, I have but a few more to see.

"Over on the island of Fiji, the wildlife was negligible. The only animal that I encountered there was the mongoose, a little brown animal that resembles a weasel. In South America the little fellow is a shrewd snake killer. If he had to thrive on snakes in Fiji he would certainly be short lived. In all my stay there I didn't see a snake nor did I know anyone who had, although the hoptoad was there by the thousands.

"I did see a covey of quail and their size was really pitiful. They were much smaller than our bobwhite and it would take quite a number for a fill. We had a bird that was quite as common as the sparrow. It was a greyish color with a white spot on each wing. It was really a beautiful bird in flight and one of its favorite resting places was on the back of cows and horses. It was nothing to see from 5 to 10 birds on one animal. The owner of the back didn't seem to mind them being there—I guess they worked together. One attracted the bug and the other would stay for lunch.

"On Guadalcanal the only animals I saw were a few large rats and a brown animal (I don't know the fellow's name) that grew to the size of an opossum. He was solidly built and an excellent tree climber. The boys had a lot of fun shaking him out of trees.

"We had a large lizard that really put us fellows to thinking while on duty at nights. That fellow really loved to prowl around after dark and he made just enough noise to cause a lot of eye straining. Incidentally I'll probably be needing glasses for I sure had my share of guard duty.

"We had quite a number of song birds on Guadalcanal. They were about the only rosy things on the island (next to leaving the place) except the beautiful colored cockatoos and parakeets which were really plentiful. One bird really had a voice all of its own and could be heard for quite a distance. Its song rang out as if it were a blacksmith striking an anvil, and I must say it was a thrilling song.

"As for the other islands that I've been on—they aren't worth mentioning. Rats, small lizards and mosquitoes abound but they make poor hunting. The more I see of the cocoanut tree studded islands the more I appreciate the hills and wildlife of Pennsylvania.

"Before I sign off I must put in a pun for my brother, who gags for the magazine, also Mr. Carroll. The other fellows that I pass the magazine on to appreciate it as much as myself and they really look forward to its arrival, and as most of them still read the comics, they do go for the gags.

"Here's wishing the magazine continued success for it is really a morale builder and keeps me looking forward to the Pennsylvania hills.

"That is one beachhead I want to make."—P.F.C. Victor M. Filchock, (13041575) Co. "F" 2 Bn., 147th Inf. APO No. 718, P. M., San Francisco, California.

IN THE NEXT ISSUE

Just as we were going to press, but too late to include it, we received a most interesting report from Col. Nicholas Biddle, well known Member of the Game Commission from Bethayres, who is serving with our armed forces in England in the capacity of Inspector General. In it he describes most entertainingly the important game species found in that country and Scotland, together with the techniques employed in hunting them.

Other highlights of the next number will include a discussion of Forestry and Wildlife Management by P. F. English; a very constructive analysis of the predator problem by an anonymous author; the first of a series of short articles on winter feeding; the report of the Federation Convention; and a great many intensely interesting notes from sportsmen and from game protectors.

"Received your October 21st letter a couple of weeks ago and glad to get it. We are "back where the devil bid the owl good-night," in a good game country. Haven't had a chance to hunt yet but hope to soon. Tiger, elephant, leopard, a few rhino and millions of jackals and hyenas. You mention making wolf traps. If you can spare a couple, take this letter along to the Post Office with the APO cancelled envelope and mail me a couple, via Parcel Post. You will need this request for them to accept them; can't be over 5 lbs. I understand. Put the bill in with them and I'll send money order at once. The damn jackals bother our food caches and howl about it all night. Could give them something to howl about with a couple of traps, I think. Don't think there is a steel trap in India.

"Saw 6 elephants from a plane a couple of weeks ago; was low and had a good look, though I couldn't see if any carried good tusks. Got quite a kick out of it. Had a chance to go kill an old elephant that was raisin' hell in the native's rice a couple of weeks ago but couldn't get away. An English Tea Planter promises me a shot at a tiger or leopard soon; hope it materializes.

"Cobras and kruits here in numbers but not too active now; bad during monsoon season I guess. Like October here, warm in daytime and cold at night. Malaria bad, some sleep under nets. First place I needed an overcoat and mosquito dope at the same time, but its a fact.

"Tojo hasn't been to see us at this location since we hit here but he's not far and it wouldn't take him long, if our boys weren't giving him so much hell. They're doing a real job on him. Wish I was young enough to fly a plane.

"Here's hoping this finds you well. Let me hear from you. Tell all I said hello and that I wouldn't have missed this show out here for a million."

1st Lt. Robert E. Latimer, 1117th M. P. Co., Avn., APO 629 c/o P. M., New York.

Since receiving this letter we have been informed that Bob shot a leopard.

George Koehler was honorably discharged from the army after having had an accident while he was stationed at Fort Belvoir and is now back on Managerial Group C-5, his old stamping ground.

"I've been receiving the GAME NEWS steady, tho' usually two months or so after publication. That is one of the things that comes with an APO address—late mail, but better late than never. The last issue was October's, so I'm not up to small game season yet, but they always come and the lateness makes greater appreciation.

"After receiving your letter containing Bob's address, I even ventured to write to him. He answered too, describing his duties, the general lay of the land, and even hunting conditions. I must try and write to him again soon.

"This country, from what I've seen in the past three months, is generally much better than Africa. The rugged mountains, the ancient ruins, enormous vineyards, fertile land, and the picturesque cities are really much better than I expected, from afar, but the conditions existing as the results of years of war or preparation for war are far worse than one could hope to imagine without actually seeing them.

"It makes an American sit up and notice, and be more thankful each day that our country is what it is, and always must be. I don't wish to sound like an ad for bonds and such, but it really makes an impression, what one sees over here.

"I guess I never will be satisfied until I'm back home again in "Pa." I missed hunting especially, more than I ever thought I would. I guess as time passes the memories of happy days become much more impressive, as they all become exaggerated more and more by an active imagination, instead of just an ordinary hunting trip since the days of D. Boone! If you follow me. I guess time elapsed allows for the addition of the "extras." Anyway, we have certainly had some wonderful experiences reborn, or maybe just "born,"—over a cup of coffee and a cigarette."—Pvt. George W. Levis, Btry. A, 213th C.A. (A.A.), APO 464, c/o P. M. New York.



Author and wild pig, showing size of head and jaws.



An opossum not native to the country, but imported from a nearby country. Fur is prized for garments and rugs. Note bushy, fur-covered tail. Much more intelligent than our species.

OVERSEAS GUNNING

The other day we received a letter from Ralph Roberts, Hardware Merchant of Sharon enclosing a bunch of snaps taken of several wild pig and other game hunts in the South Pacific by 1st Lieut. F. M. Rushmore, also of Sharon, who has been serving in the Field Artillery. The Lieutenant likes to aim a small bore just as well as the big babies, however, so when he finds there's good shooting of another kind round about he and his buddies get busy. Wish we could have used all the pictures he sent of their experiences. Of the pig hunt he writes "The trailing dogs, called 'finders' trail the pig and when they come up to it they bark, or 'bail' as it is called locally, then the holding dogs and the hunter arrives. As the hunter arrives the dogs close in and maneuver until 'holders' can grasp both ears, or other parts of the head to prevent the pig turning on the hunter. When the pig is securely held the hunter comes in behind, grasps a hind leg, throws the animal on its back and sticks it with his knife. On large boars it is often impossible for the dogs to close in without being slashed."



A red-deer stag, 9-points, and about 300 lbs. There is no open season as the animals are considered pests in the areas they frequent.



The author with a hare, which are quite plentiful. So are cottontails, which resemble ours.

★ ★ ★ CURRENT TOPICS ★ ★ ★



W. Gard. Conklin

KNOW THEM BETTER

From the time he graduated from the Pennsylvania State Forestry School, Mt. Alto, with the degree of Bachelor of Forestry in 1908 until the present day, W. Gard. Conklin, Chief of the Division of Lands, Camp Hill, Pa., has had a long, varied, and even hectic career in which he has given of his utmost in loyalty, initiative and ability.

He served as State Forester in Snyder and Union Counties from 1908 until 1913, then was assigned to the Harrisburg office to handle engineering and silvicultural work.

He entered World War I as a 2nd, then 1st Lieutenant, serving in the engineers on various A. E. F. sectors until he was wounded on November 2, 1918 in the left arm and hip by high explosives. Upon his discharge from the Army in 1919 he was awarded the Victory Medal with three battle clasps, the French Fourragere and the Purple Heart.

In 1920 he was commissioned a Captain, Engineers Reserve Corps, and in 1924 was promoted to a Major, a commission to which he has been reappointed each five years since. Due to physical disability he has now been placed in the inactive reserve.

Upon his return from military service Major Conklin was again employed by the Department of Forestry, this time on engineering work. On April 1, 1920, however, he was "loaned" to the Game Commission to help establish a land purchase program and has been with the Commission ever since, i.e., more than 23 years.

During that period he served as Chief of the Bureau of Refuges from 1922 to 1933, as Director of Refuges and Lands from 1933 to 1939, and as Chief of the Division of Lands from 1939 to date.

MORE GAME LANDS

The Pennsylvania Game Commission at its meeting on January 13 approved the purchase of 10 tracts of land totaling 7,351 acres. Land purchase contracts are now being entered into for these tracts. When titles finally become vested in the Commonwealth, for use of the Commission, these tracts will be added to the splendid system of State Game Lands dedicated to sportsmen's use and pleasure. Three offers totaling 2,766 acres failed to receive the Commission's approval.

In addition to this new acquisition there are 74,532 acres now under contract for purchase, including the 37,762 acres in northern Dauphin and Lebanon Counties approved for purchase at the last preceding meeting. Since 1920, when this important program was started at the instance of the State's large hunting population, titles for a total of 742,362 acres, distributed through 62 of our 67 counties had been vested in the Commonwealth. When the pending transactions are consummated, the aggregate area of State Game Lands will be about 816,894 acres.

The Commission very reluctantly rejected an offer for 800 acres of marginal farmland in Lehigh County, because it did not feel justified in paying anything like $30.00 per acre for State Game Lands, devoted mostly to public hunting, and they did not deem it wise at this time to take out of agriculture either crop or grazing lands needed for the production of food to aid the war effort.

Tioga County, Gaines Township: Mrs. Mary B. Whiting, 890 acres. Russell P. Gee, Agent for the C. F. Billing Estate, 3,571 acres; Long Run Fish and Game Club, 6 acres; F. L. Patterson, 50 acres; E. F. Wieboldt, 1,951.6 acres. These tracts are contiguous and represent a new purchase project.

Susquehanna County, Apolocan Township: Frank Donnelly, 348 acres; John J. Purtell, Admr. of the Stephen Purtell Est., 145 acres; Miss Katherine W. Carmalt and Mrs. Marguerite Carmalt, 150 acres. These three tracts are contiguous and include abandoned farms.

Warren County, Pittsfield Township: Pennsylvania Railroad Company, 140.5 acres. This tract is contiguous to State Game Lands No. 143.

Bradford County, Leroy and Barclay Townships: Part of the right-of-way of the abandoned Susquehanna and New York Railroad, 98.9 acres. This purchase includes several strips of right-of-way extending through State Game Lands No. 12.—See Summary of lands owned and controlled by the Game Commission on page 24.

Remember that the Question and Answer Forum that we inaugurated quite sometime ago is still in force and that we'll be happy to answer queries to the best of our ability if they are forthcoming.



Nelson E. Slaybaugh

KNOW THEM BETTER

Although Nelson E. Slaybaugh, New Cumberland. Pa., has served the Commission faithfully and diligently as its Comptroller since 1933, a position fraught with the complex problems of directing a large and diversified budget, that period by no means marks the full extent of his affiliation with the department.

"Sam" as he is generally referred to around the office, came up through the ranks, beginning his service as a Clerk in 1920. Thereafter he held the positions of Stenographer Clerk, Principal Clerk, Assistant Bureau Secretary, and Chief, Bureau of Office Maintenance, until he was appointed Comptroller over ten years ago.

Through his initiative and resourcefulness the Division of Accounting and Budget, which he directs in his position of Comptroller, has been streamlined to insure the best operating efficiency.

Prior to his service with the Commission Mr. Slaybaugh was employed by the Pennsylvania Steel Company as Clerk, Chief Clerk and Timekeeper. Later he accepted a Civil Service appointment in Washington, D. C. but subsequently resigned to serve in World War I from which he was discharged a Sergeant in 1918.

At the termination of his military service he entered the employ of the Jewel Tea Company of Harrisburg and York, serving as salesman and branch manager until he became affiliated with the Commission in 1920.

Mr. Slaybaugh graduated from the public schools of Adams County, the Carlisle Commercial College, and from a special course in accounting given by the Commonwealth.

PREDATOR CONTROL

Lancaster County sportsmen are taking their local predator problems seriously according to recent announcements. For instance the Lancaster County Sportsmen's Association is offering a $4.00 reward for each of the first twenty gray foxes killed in the county and reported to them up until March 31. This is in addition to the regular state bounty of $4.00. The association made the extra reward effective December 31, 1943, with an added stipulation that the person who accounts for the most gray foxes from that date until March 31, inclusive, will be given a $25.00 War Bond. In case of a tie an extra Bond will be awarded. Ivan Adams, head of the association predicted a county-wide movement in catching foxes and expects it to become current activity in most parts of the state.

At any rate, on the heels of his announcement, your editor received another emanating from the Southern Lancaster County Farmer-Sportsmen's Association, Donald C. Graybill, Secretary, to the effect that his organization has set aside $100.00 as bounty fees to be used at the rate of $2.00 for every gray fox killed from January 18 to March 31. A further stipulation requires that the animals be killed in either of the following townships: Bart, Colerain, Drumore, East Drumore, Eden, Fulton, Little Britain, Martic or Providence. A sum of $20.00 has also been set aside for weasel bounty at the rate of 50c per pelt to be administered under the same rules and regulations as those pertaining to gray foxes. The bounties will be paid by Mr. Graybill, New Providence, to any person after the pelt has been approved by the Game Commission and upon the presentation of a required voucher to the secretary.

Faithful Service

Frank E. Houck has served faithfully as Deputy Game Protector in Huntingdon County for twenty years. He received his Commission in 1923 and served under the following Game Protectors: Bert Benson, Samuel Price, Thomas F. Bell, and at present Walter M. Thomas, Acting.

Industry pays debts, despair increases them.

Mad kings and mad bulls are not to be held by treaties and packthread.

Glass, china, and reputation, are easily cracked, but not easily mended.



This picture was taken the first day of the 1943 small game season in Lancaster County. There were five in the party, including left to right Mrs. Herb Sterner, Mrs. Al Egges, Mr. Sterner, Mrs. Faber Zinn and son Dick.

NATIONAL IWLA TO MEET

The 22nd Annual Meeting of the Izaak Walton League of America will be held in the La Salle Hotel, Chicago, March 30, 31, and April 1, 1944. Members and delegates from all over the United States will gather for this important meeting dedicated to the protection of America's out-of-doors and specifically to sane land and water management in the public interest in the post-war public works program.

Among the many constructive recommendations of the League for the post-war program is one that top priority be given to sewage treatment for municipalities or public institutions, presently having inadequate treatment. Other prominent measures will include: to arrest and correct soil erosion, reforestation and restoration of lakes and swamps unwisely drained.

The major theme of the meeting will be a constructive post-war public works program with consideration for all values, and the whole public's right to the proper use and enjoyment of its natural resources.

NATIONAL WILDLIFE WEEK SET FOR MARCH 19 TO 25

National Wildlife Week will be observed this year with the week beginning March 19. Proclaimed by President Roosevelt in 1938 the week has been each year sponsored by the National Wildlife Federation from its Washington, D. C., headquarters.

During the week the story of wildlife—its decline, its restoration and its conservation—will be told through the press, from the public platform and over the radio to the 15,000,000 conservationists in the United States. How the conservation of wildlife ties in with pure water, standing forests, less erosion, with more productive lands and fewer dust bowls, will be the theme that presents the drama of America life.

The National Wildlife Federation each year issues a sheet of wildlife poster stamps which are reproduced from paintings by famous American nature artists. This year 38 species are represented in the 64 stamps on the sheet.

Clubs, societies and individuals interested in securing further information about the activities should write the Federation at 1212 Sixteenth St., N. W., Washington, D. C.

Research studies conducted at the Swan Creek Wildlife experiment station in Michigan prove that brush piles are highly favored by cottontail rabbits, through provision of both shelter and food.

Usually woodchucks excavate ground burrows beneath the heaps, the studies show. Where this occurs the piles are even more desirable for shelter purposes. Bark from brush cut during late fall and winter provide easily available food for cottontails that have taken refuge in the piles.

Attention!

Since we encouraged sportsmen's associations and individuals to contribute more items to GAME NEWS the response has been very gratifying, but we can use a lot more, especially local notes of club activities, hunting yarns, etc.



Jared M. B. Reis

A TRIBUTE

At their 11th annual banquet held recently members of the Old Time Sportsmen paid a fine tribute to former Game Commissioner Jared M. B. Reis, New Castle, who served with the department for over seven years (1924-31), six as its vice-president. Among the 114 present at the gathering, the biggest get-together in Old Time's history, were dignitaries of statewide and local field and stream renown. As each member 50 or more years of age entered the clubhouse he signed a testimonial of esteem which was subsequently presented to Mr. Reis. Following that overture different speakers contributed to the program of the evening, among them Andrew Dodds, President of the Lawrence County Sportsmen's Association, who described the progress of the organization; Hon. Robert Lamberton of Franklin, present vice-chairman of the Game Commission, who recalled how years ago he had "run dogs" against Mr. Reis in field trial competition, and who praised his work with the Commission; Mayor John F. Haven, of New Castle; Dr. W. D. Imbrie, Member of the House of Representatives and chairman of the Game Committee, Johnny Mock, Outdoors Editor of the *Pittsburgh Press;* President Judge W. Walter Braham; Game Protector Frank Coen; and Fish Warden Clinton B. White.

A compliment was also made by Judge John G. Lamoree, who did a top job as toastmaster, to Squire O. H. P. Green, who was characterized as "a grand old gentleman," and a message of cheer was sent to George Bolinger, Member whom illness kept away.

It should certainly be gratifying to a lot of us who have far to go before we become oldtimers to know that the sport of hunting and fishing never wanes, and that even as we carry the ball today the old pioneers are on the sidelines giving us all the encouragement they possibly can.

Hoyes Lloyd Succeeds Dr. Pearson

Hoyes Lloyd has been named chairman of the Pan-American section of the International Committee for Bird Protection, taking the place of the late Dr. T. Gilbert Pearson, who was the chief organizer of the movement.

Mr. Lloyd just recently severed his connections with the Department of Mines and Resources of Canada, where he served as Superintendent of Wildlife Resources with headquarters at Ottawa. In a letter to friends and associates he said "Following completion of twenty-five years' service, I find it possible to devote my time to ornithology and natural history work without being tied to an office and the usual restrictions of the government service."

Conservation is a matter of public sentiment. If public sentiment is for it, it will succeed. If it is opposed to it, we are in a miserable plight. It is succeeding here, and it means the salvation of our game birds and animals while there is yet time to save them. It means that we will do more for those that come after us than those who proceded us did for us.

Col. Sheldon Tenders Resignation

Col. Harold Sheldon has tendered his resignation as Director of Public Relations and Information for the U. S. Fish and Wildlife Service.

The Colonel has been away from the Service for quite some months on extended furlough. The weather of the Windy City never did agree with him and he spent the past summer on Lake Bomossen, Vermont, where he has purchased a home near his old birthplace.

Here's wishing him a long life and plenty of game in the sights of his gun.



Don't know who this lucky fellow is. Hope he drops us a note and gives us the low-down.

LARGEST DUCK FLIGHT

According to the Fish and Wildlife Service 1943 saw the greatest southward flight of ducks, geese and other migratory birds since 1919. The Service credits this to careful conservation and to the development of refuges along the four chief flyways. Some 25 million waterfowl are said to be using Federal refuges.

The Service states that waterfowl populations, estimated at 27 million in 1934, had increased to between 115 and 120 million in the spring of 1943. There were good populations of waterfowl both in Canada and Alaska, although geese were still below normal. Breeding grounds in the northern United States, reported drought-stricken a few years ago, were said to be in excellent condition.

Among small game birds, some recovery of the depleted stocks of mourning doves, especially in the eastern states, was reported. The woodcock is said to show signs of recovering from the low point of a few years ago. However, the Service believes that careful management of this species is still needed.

An Opinion

"Well it's queer," said he, "but you seldom find
A lover of trees in a prison cell
Or doing a wrong of any kind;
It's in stuffy rooms the criminals dwell.
"I've watched the world and the ways of men,
And those who are bronzed by the summer sun
And know the secrets of field and glen
Aren't apt to be near when wrong is done.
"For crime is bred in the crowded streets,
But the man who bothers with plant and tree
And is friend to the humblest flower he meets,
Is likely a friend to man to be."

—EDGAR GUEST.



A ten pound wild turkey hen killed by Fred Johnson, Emporium, the day before Thanksgiving, 1943.

Remember?

Remember U. S. Senate Bill N. S. 1152 introduced by Senator Pat McCarran, Nevada, that triple threat against the principles of conservation under which our wildlife has been saved from extinction? Well its dead. It caused quite a furor while alive and every state in the Union rose up on its hind legs and helped defeat it, Pennsylvania included. The bill, if you will recall would have made it possible for certain Federal officials, at their discretion, to take over absolute control and permit the hunting, trapping, and killing, in numbers to be determined by them, of game animals of either sex, on any public lands or reservation of the United States; would have provided for the issuance of Federal licenses "to citizens of the United States without regard to residence," and would have exempted the holders of such licenses from observance of State game laws; and as the final blow would have permitted the sale of game animals.

That's water over the dam now, and in the words of the Senator he does not plan introduction of any other legislation on the subject. It must be admitted that some good came out of the effort, namely that the mature consideration the bill had, some of it public, showed only too well that State Conservation Departments were on their toes, and that more substantial cooperation between individual States and the Federal government has been achieved.

Ohio's first open deer season in about 50 years furnished some pretty fair sport, according to reports from the Division of Conservation. Hunting was restricted to three counties.

A recent acquisition of 1,817 acres brought New Jersey's Public Shooting and Fishing Grounds up to 33,327 acres.



A 235 pounder (hog dressed) killed Nov. 19, 1943 in Pine Bottom, Lycoming County, by Eugene Salem, Myerstown, Pa. Others in party included Jacob, Ervin and Margaret Shirk.

HUNTINGDON IWLA ACTIVE

Although only nine months have elapsed since the Huntingdon County Chapter of the Izaak Walton League of America received its charter the group has accomplished a great deal.

The chapter, in cooperation with Hon. G. I. Phillips, member of the Game Commission, sponsored a resolution in its first short year which was adopted by the State Division at the annual convention held in Huntingdon in October. It was forwarded to Governor Martin and recommended the teaching of Conservation in the public schools.

Huntingdon County's Izaak Walton Chapter has a splendid conservation program which calls for forest protection and extension, elimination and prevention of stream pollution, erosion control, watershed development and protection, improving food and cover conditions for fish and wildlife, protecting beneficial birds and animals and wild flowers, molding conservation sentiment and lending support to conservation legislation. The Huntingdon organization intends to reach those goals. And they will with such active members as President J. W. Matthews, How'd Shilling, Bill Shilling, Dr. William A. Doebele, Jim Kyper, Fred Mark and T. Roy Morton, to mention only a few. Every member is a true lover of the outdoors.

EDITOR'S NOTE: When Fenimore Cooper, about 83, Mahanoy City and Pennsylvania's first trap shooting champion died recently the memory of his early day accomplishments were revived through the following poetical tribute paid the old veteran by Lester B. Lutz, Pastor of St. John's Lutheran Church, that city.

Little need has man at setting sun
If he has a clean soul and a trim bird-gun,
And a long straight trail to God's hunting camp,
And the glad remembrance that he's a "Champ".

Only God's chosen can know the feel
Of being wedded to walnut and steel—
Of swinging like music pure and fine,
To meet lordly grouse on horizon line.

Sweeter than flute notes—the song of the quail,
Sweeter than choir boys—are the hounds on the trail,
Sweeter than love songs—the point of a dog;
Sweeter than trumpets—geese calling through fog.

Let the faithless yield themselves to grief
At the autumn wind and the falling leaf,
But I will face them with joyous heart,
And memories keen as the Indian's dart.

Let the path of glory lead where it will,
The soul of a hunter can never lie still,
Let me "love mercy", and a cleaning rod;
Let me smell powder, and "walk with God".

Write: "Here sleeps a hunter home from the wood,
God helped him live humbly, and shoot rather good;
Some called him a failure and others a tramp,
But he still remembers that he is "The Champ".



Photo by John Lohmann.

Frank Kipp, Sr. and Jr. with a 353 pound (hog dressed) male bruin, killed on November 15, 1943, in vicinity of Little Walker Lake, Shohola Township, Pike County.

Here and There . . .

Friends will be happy to learn that Mary Elizabeth Brown, formerly with the Bounty Division of the Commission recently arrived in Australia as a member of the American Red Cross. Her present address is APO No. 927, c/o The American Red Cross.

Officials at Camp Livingston, La., recently announced the promotion of Gilbert L. Bowman, son of Mr. and Mrs. Roy Bowman, 404 S. Second Street, Lykens, Pa., former District Game Protector, from First Lieutenant to Captain.

Captain Bowman is assistant Camp Provost Marshal. He now lives in Pineville, La., with his wife, the former Marie Koons of Harrisburg, Pa.

Captain Bowman was a graduate of the Game Commission's 2nd Training School Class.

In the last issue we called attention to the rabbit trapping activities of the Letterkenny Ordnance Depot in Franklin County. It might interest our readers to know that as of February 15, 1714, cottontails were caught on that area, according to S. C. Houston, President, Chambersburg Rod and Gun Club.

Lost time is never found again; and what we call time enough always proves little enough.

Diligence overcomes difficulties, sloth makes them.

PENNSYLVANIA GAME COMMISSION—DIVISIONS OF LANDS AND OF GAME LAND MANAGEMENT—SUMMARY OF LANDS OWNED AND CONTROLLED BY THE GAME COMMISSION JANUARY 1, 1944

Classification	Total Area (Acres)	Refuges Number	Refuges Acres	Open Hunting (Acres)
State Game Lands (183 blocks)	742,362.0	209	59,754	682,608
Primary Refuges on Other Public Lands (86)	59,507.0	86	59,507	
Auxiliary State Game Refuge Projects				
(General Classification) (53)	45,580.0	58	12,078	33,502
(Farm-Game Classification) (73)	153,729.0	759	6,065	146,654**
Special Preserves ***				
Dog Training (5)	2,668			
Archery (2)	1,985			
Game Propagation Areas (94)				
(Exclusive of Wild Turkey Areas)	27,981	94	27,981	
	1,033,812	1,206	165,385	862,764
Special Wildlife Refuge Projects (128)	43,284	158	5,388	37,896
(Sponsored by Sportsmen's Organizations, not included in totals)				****

State Forests total 1,654,761 acres and the Allegheny National Forest totals 446,476 acres, practically all open to public hunting.

**1,967 Safety Zones totaling 36,043 acres included.
***2 Preserves located on State Game Lands total 1,130 acres.
****234 Safety Zones total 2,644 acres included.

Notes from the Field . . .

"'The Homestead Buck' is still going strong. This is the name that has been locally applied to an unusually large buck deer that for the past several years has made his home on Game Propagation area No. B-27, which is well known as the Bethany Homestead Farm. This buck has worn a beautiful rack of antlers for the past several years and his noble head would be a trophy that any sportsman could well admire. I have been very close to this deer on several occasions during the past few months and as near as I have been able to tell, he had a sixteen point rack of antlers this season. Very rarely does this deer stray far from the protection of the propagation area and especially not during the hunting season. On a few occasions when deer hunters have spied him in open hunting country during the season they have tried very hard to bring him down. On one such occasion he was sighted by a group of hunters within a quarter mile of the area but just as the hunters thought they had him surrounded one of them happened to see him entering the propagation area under the wire. During the deer season of 1940 this deer was shot through the left shoulder rather high, the bullet coming out just back of the right shoulder. I happened to locate the animal one day while feeding game, about a week after the close of the season. We carried food to him for over three weeks and he finally regained his strength and came around fine. About a week after I had located the buck, he dropped both antlers and I now have them in my possession. It was a large rack and had twelve points."—Game Protector Maynard R. Miller, District B-3.

"On January 1, 1944 a young trapper living in Springfield Township, Fayette County, met with an unusual experience. A fresh snow having fallen he decided to set out to do some prospecting on trapping. Eventually he came across a mink track which led him to a large rock, under which he found several holes. He immediately began to set some traps around the rock. By the time he had completed setting his traps, and came around to where he had set the first one, he was very much surprised to find Mr. Mink in it. After securing a stick, he hit it over the head and put it in his hunting coat, resetting his trap again. He then proceeded on his way. Having gone but a short distance, he realized the mink had come to life again. By the time he had gotten his coat off the animal had found a hole and jumped out, running in the direction from whence it came. By the time the lad got back to the rock, Mr. Mink had gotten himself caught in the same trap again. This time the young trapper made sure that it was dead before he put it in his hunting coat."—Game Protector Lester E. Sheaffer, District G-14.

John R. Langenbach, Acting Game Technician, Loyalsock Experiment Station, R. D. No. 2, Montoursville, Pa., reported a 225 pound buck killed by a hunter in that section. It was weighed on the scales of the County Home.

Michael Grabany, caretaker and patrolman at the Game Commission Training School, who was inducted into the Navy January 6, is now located at the Naval Training Station, Bainbridge, Maryland, and will be glad to hear from the boys at home.

"In deer season this year our hunters were shooting foxes and seeing more of them than ever before. Small game hunters in Butler and Lawrence counties complained of the shortage of small game. This is not all due to a poor breeding season. We have a great overabundance of foxes and weasels."—Game Protector, R. P. Schmid, Group F-7.

SHEPHARD OF THE HILLS

"The Shephard of the Hills" has passed on to his Great Reward. Henry A. Shephard, a former Braddock steel worker who retired to the hills of Potter County, died at his home in Cross Fork on January 11. But the memory of his deeds will ever echo through the valley of Kettle Creek where he worked so faithfully and tirelessly in behalf of conservation. An enthusiastic outdoorsman, no task was too arduous for "old Shep" as he was devotedly called by all who knew him. If game was to be fed, or fish were to be planted, the oldtimer could always be counted on to do his part. Truly, Potter countians and the hundreds of sportsmen who make their annual pilgrimage to that section have lost a real friend.

"While patrolling in Warren County during deer season I heard a shot about 200 yds. distant and upon investigating found a hunter sitting on a stump. When I approached he said, 'Come here I want to show you something.' When I reached him he said 'Do you see those two objects over by that knoll about twenty feet back in the brush. They look just like two deer. I have been watching them for about half an hour and fired a shot to scare them.'

"We walked over to the two objects and found a stump and a bush covered with leaves. I proceeded then and there to further that hunter's education. Many accidents are caused just this way. The hunter sees something, his imagination starts working, he forgets there are other hunters in the woods, and sometimes fires the shot that casts a shadow over the rest of his life besides taking the life of another."—Game Protector Elmer D. Simpson, Group F-2.

"During the second week of the buck season there were very few hunters in this vicinity. However, there were quite a few out for antlerless deer although the temperature was below zero."—Game Protector George E. Sprankle, Group E-5.

"I continue to hear many reports on the increase of foxes in this section. Most of them seem to be reds. Several were shot by both large and small game hunters."—Game Protector Clyde W. Decker, Group E-7.

"During the collection of deer hides recently, very large welts were noticed along the back and neck of a legal buck deer killed last fall. Further investigations, and the width of the marks on each side of the deer from the neck about half way across the body, was almost certain evidence that a bobcat made the marks. When an adult deer is not too far from brush or low hanging branches of trees they are often successful in scraping the would-be killer off.

"Fox hunting through this section has been going very good for the last month. Sportsmen's clubs, as well as a few trappers have taken 14 to my knowledge. No doubt more will be taken as soon as we get a good tracking snow. Sportsmen are also doing a good job on the stray house cat in Allegheny County."—Game Protector Ralph A. Liphart, District G-2.

"While trapping, Mr. Edw. Donoughe found a freshly killed rabbit. He hung it on a small bush and set a trap under it, hoping to catch a weasel. Twenty-four hours later he caught Mr. Weasel, who was so bloodthirsty that he reached up, grasped the rabbit, and started to eat it while still in the trap. Mr. Donoughe was so surprised he just held the weasel up and let it eat a good portion of bre'r cottontail before killing it.—Sheridan P. Closson, Deputy Game Protector, District G-5.

"It is believed the deer kill throughout this section was one of the smallest in years due to poor hunting conditions and the small number of hunters moving about on most of the hunting days."—Game Protector Howard F. Hoffman, Group B-4.

"Many foxes were killed during the deer season but a greater number were seen and just badly frightened."—Game Protector Paul L. Failor, Group B-2.

"The kill of bucks in Diamond Valley and surrounding section was low. This was not due to lack of deer but to a scarcity of hunters. Practically all the hunting was by the still method. Very little organized driving was done, and that was on the opening day."—Game Protector Ross G. Metz, Group D-2.

"There was quite a lot of maple timber cut in this section last month near Refuge No. 24, and it didn't take the deer long to find the tops if one can judge by their trails into this cutting. You would think there hadn't been a deer season in this section for some time. There are also plenty of snowshoe rabbit signs in the area."—Game Protector Edward Shaw, Group F-6.

"From all appearances there are plenty of deer left in Warren County or at least on the game lands. I saw eleven while driving through Game Lands No. 29 one day last week. And several places where I put out corn the deer are really getting the best of the small game. On Game Lands No. 143 there are several places where the animals have traveled enough in the same trails to make a beaten path in the snow."—Game Protector George H. Burdick, Group F-4.

"The opening day of deer season was the biggest day this year. After it was over the hunters started to drop off and I believe the kill was generally small.

"We had two hunters lost during the season. I took one out, but the other man was lost on Saturday and I did not get him out until Sunday at 4 P.M. He had killed a nice 10-point buck on Saturday.

"There were a nice lot of deer taken from the game lands in the Waterford and New Florence districts, and the heads were large and the deer in good shape."—Game Protector Wm. G. Matthews, Groups G-2 and G-3.

While hunting rabbits at Newton Hamilton November 2, 1943, Charles Fasick, Altoona, Pa., and two brothers, routed and killed a female cottontail which held six young. When they gutted the animal out rolled six small balls, which when examined contained a small rabbit each, fully developed with their thin coat of short fine fur.

"Deer season not too successful. Not enough hunters in the field at any one time. Since the season I have seen as many as 14 deer at one time. One exceptionally nice head was taken in this vicinity on the last day of the season—23 points, with a spread of 25 inches. Foxes seem to be on the increase in the vicinity of the National Park where I know of five being shot during the big game season."—Game Protector Jack L. DeLong, Group G-1.

"There seems to be a definite increase in the red fox population. One hunter reported that 5 foxes passed by him as he was standing on a deer watch."—Game Protector Cecil Hancock, Group E-1.

"Had numerous reports from buck hunters who saw bears in the Medix Run Section." —Game Technician W. C. Ryder, Division E.

"Fur-bearers are plentiful in this section this year. One farmer near here killed 3 red foxes in his field while hunting small game. There are a large number of wild ducks on the dam in Auxiliary Refuge No. 99."—Game Protector E. J. Turner, Group A-2.

"In the Blue Mountains in the Northern section of Lebanon County foxes are quite plentiful according to reports received from hunters and to the signs of foxes that I have observed."—Game Protector R. E. Holtzapple, Group A-1.

"Apparently both red and gray foxes are on the increase. Many deer hunters reported seeing more foxes this Fall than ever before. Some camps reported seeing from three to five in a day."—Game Protector Harold E. Russell, Group D-4.

"A young trapper from Howard, R. D., informed me that he caught a weasel that was minus one front and one rear leg. The old wounds had healed over."—Game Protector Joseph W. Kistner, Group E-9 and E-11.

"The grouse situation in this section is not as bad as the hunters thought during the season. There seems to be plenty left for seed."—Game Protector Elmer L. Pilling, Group E-10.



Photo Delbert Batcheler.

Game Protector Chester S. Siegle with tame buck fawn at Land Management Headquarters in Sullivan County. The buck's a Golden Glover and no foolin'.



Photo by John Lohmann.

The lucky nimrod in this photo is John Hanrahan, of Mill Rift, and his trophy is a 250 pound female bruin, which he bagged in Shohola Township, Pike County, season of 1943.

"While president of the Eastern Counties Protective Association I had an occasion to call the Chairmen of the various committees to formulate a field day program. It was a hot August afternoon, so we went to the porch of my home to proceed with the business.

"Now at that time I was attempting to raise a few ringneck pheasants to liberate later on, and the pen was some distance from the porch. Suddenly the pheasants started flying around the pen and calling at the top of their voices. One of the members looked up and right over the pen there was a large Cooper's Hawk flying. I ran into the house and got my gun, slipped out a side door and ran towards the enclosure. The hawk gracefully soared away.

"I stood under some trees for awhile thinking it would return. The sun was shining brightly on the lawn and I could see the shadow of what I thought was the same hawk. I quickly looked up but I was looking right into the sun. I waited with gun ready and just as it came out of the glare, I fired. Now here is the unusual part of the story. Something dropped on the lawn, all the fellows ran off of the porch to where it landed, and there was a beautiful 7 inch bluegill sunfish. It seems that an osprey decided to fly across the pen just about the time I thought the Cooper's Hawk returned and it had the fish in his talons. The fish had three pellets of shot through it.

"I was a long time living that one down, when it got around among the club members. The idea of the President of the Association shooting sunfish on his front lawn."—W. S. Clemmans.

But dost thou love life, then do not squander time, for that's the stuff life is made of.

More About Deer - - - -

(Continued from page 5)

when all the valuable foods are gone and the deer in desperation eat such species as balsam, aspen, and laurel. These species will not maintain life, if there is nothing else, and thus the deer die "on a full stomach."

When winter comes the deer concentrate in small areas and it is on the browse in these areas that they depend for their food. Because of the combination of weather conditions and habits of the deer, it can be expected that they will yard or concentrate on northern range in Wisconsin for about three or four months. If the winter is open enough the deer can sufficiently use the bordering summer range to prevent starvation.

Officials claim there is enough food on the summer range to support many more deer than Wisconsin has now, but the summer range has little or no bearing on the decisive critical winter period.

To make a reliable extensive survey takes a well trained staff of experienced cruisers who have knowledge of the life history and habits of deer and the food and cover plants upon which they depend. It is necessary that they know what to look for and that they keep reliable detailed reports for each yard inspected.

When conditions are at their worst—all the trees stripped clean and dead deer lying every few yards along the trails—it does not take much skill to determine that the area is browsed out and that starvation has taken place. On the other hand it calls for a real expert with a great deal of experience to estimate conditions and prepare a reliable report two or three years before the critical stage is reached. Likewise, it is equally difficult to correctly estimate trends up or down when the evidence is not clearly very bad or very good or where a change is being initiated. The study of the deer subject in Wisconsin has barely begun. There is much to be done, a good deal to be learned. But as Project Leader Feeney says, "Even as our system of analysing and recording improves, it will be more difficult to estimate the trends of change that are beginning to take place now that a turning point has been reached."

Casual observers frequently report that the "deer look good," "getting along fine," up to the time they are ready to die or dying. A deer does not readily show the symptoms of malnutrition until about half dead. When they become conspicuously weak their days are few.

Wisconsin recommends that all those interested in the deer problem, when possible, put on a pair of snowshoes and go into the deer yards in February or March and study the actual conditions for themselves. Those who have done so have found their trips worthwhile and often have been much surprised with what they have learned.

There is bound to be starvation and overbrowsed yards where over-population continues. This is a point that should not be overlooked. It is not reasonable to anticipate that the harvesting of 100,000 deer by hunting will prevent starvation in the poorer deer yards. It will take much more than a reduction of 1/5 to show any appreciable results in reduced starvation losses or range improvement, in the most overbrowsed areas. One hundred thousand deer for Wisconsin, with a deer herd between ½ and ¾ million, is scarcely as much as the annual increase. It is hardly a reduction of the total population. The removal of 100,000 or 200,000 deer



Extreme browsing on tamarack, Saddle Mound Area, Jackson County.

in Wisconsin would doubtless mean an improvement for some of the less critical areas, and since the distribution of removal depends upon hunter's choice coupled with other uncontrolled factors, it is possible that overshooting might take place in some localities. On the average though, the problem will still be a surplus of deer for a while. In any case as has been previously pointed out: of the two dangers, overpopulation or overshooting, it is much more risky to try to carry too many deer. *"It is much easier to replenish deer than it is to regrow damaged deer range. Deer multiply quickly when conditions are favorable, but deer range once destroyed takes a long time to be replaced,"* says the Wisconsin Report.

There are few in Wisconsin who doubt that a serious deer situation exists, but there is a great variance of opinion on how the problem should be handled. Pennsylvania has been no exception to this rule. The following general suggestions, good and bad, are commonly heard discussed throughout the State where the topic is deer:

1. Continuance of the forked-horned buck regulation.
2. Reliance on the present refuge system or a similar one.
3. A period of closed seasons.
4. A large artificial feeding program.
5. The State purchase of deer yards.
6. Deer range management.
7. Reduction of the deer herd surpluses and continued cropping of the surpluses.
8. A combination of two or more of these proposals.
9. Let overpopulation, range damage, and starvation run its course.

Following is an interesting summation of possible Management Measures in Wisconsin:

1. Their forked-horned buck regulation helped to bring about an increase of deer. Up to a certain point it appeared to be a good thing, but assuming that it was sound and did accomplish its purpose, officials feel it would be very foolish to carry it on to the point of defeating its own ends and thereby undoing any good that it might have accomplished. Generally speaking, at least for the northern part of the State, Wisconsin now does not need and cannot stand a further increase in the deer population. The herd is already too big for its own survival. Any proposal which tends towards a further increase at this time disregards the facts of the problem.

2. The original object of the Wisconsin refuge system was to insure protection for an adequate breeding population and thereby foster an increase of deer. Today they do not have the problem of too few deer because of lack of breeding stock, but on the contrary too large a breeding stock and too little survival of the fawns produced because of the lack of winter food. *They justly believe that from the standpoint of deer management that all of the overbrowsed refuges should be opened to hunting in order to reduce the surplus causing the overbrowsing.* Such refuges serve no good purpose as they are. It is thought that some kind of refuge system in the future probably will be advisable, but it is too early to clearly say just why or where they will be needed.

3. It is obvious that if the trouble is overbrowsing to the point of destruction of both the deer and deer range, a closed season can accomplish nothing except to let the deer

pile up still further, if that is possible, and hasten the ultimate reverses. Leader Feeney says *"The thought that we have had heavy starvation losses which should now be offset by reducing the hunting is not based on an understanding of the facts. We still have the breeding stock, but we do not have the range food to carry their yield of offspring through the normal winter. If the browse killing surplus is not removed there soon will be heavier losses of the breeding stock also."*

4. On the surface, the feeding of starving deer seems to be one of the best suggestions for a remedy of the trouble, but it is not what it seems. If we can learn anything from the experience of others, we should have learned that dozens of feeding experiments in nearly all of the States that have ever had any deer problems have proved to be highly unsuccessful. First of all, deer, by nature and habit, are browsing animals, not grazing hay-eaters as are cattle. In the winter particularly, they depend chiefly on the twigs of trees and shrubs. Of course, in the summertime, they do eat grass and other things as well as browse and in the winter when driven by hunger because of lack of natural foods, they will eat hay. But because they eat hay under adverse conditions does not mean that it is good for them or that it will sustain them. Because a starving deer eats something is no proof of its nutritional value. Starving deer often eat balsam ravenously, but it is a proven fact that they cannot live long on a straight diet of balsam. They gradually lose weight and eventually die with a stomach full of this almost useless food. There are several artificial foods or combinations of foods, chiefly soybean-molasses-cake and grains, which are known to carry deer when fed in sufficient quantities, but it is a million dollar project and completely impracticable to carry on such feedings on a very large scale. Aside from costs and results, it is impracticable because the facilities for placing of adequate food over extensive and remote areas, where and when it is needed, are completely lacking.

5. The acquisition of winter deer yards by the State in itself is no solution to the main problem, though the purchase of these areas with better regulations would undoubtedly be a desirable step in deer range management.

6. The whole matter of deer range management is in an uncertain and speculative stage. However, the opinions are often advanced that the answers lie in controlled burning, the planting of cedar or other food plants, the planting of cover on summer range where cover is needed to hold the deer in the winter, selective or rotational cutting to stimulate food growth, and other manipulations of the land. Possibilities for the direct management of the deer's environment seem promising, but whether something of value along these lines can be developed for deer is yet to be seen.

7. It should be clear that if we have widespread overbrowsing in the winter deer yards accompanied by heavy starvation losses, there is an overpopulation of deer relative to the winter food supply. Since this is generally the case in northern Wisconsin and parts of central Wisconsin, it follows that a reduction of the surplus within the limits of the present carrying capacity of the range is the only way of preventing starvation losses and the further deterioration of the range.

Without herd reduction neither artificial nor natural range improvement is possible. The important thing is that the surplus reduction by hunting comes before the total reduction from browse depletion and starvation. The object of herd control is not to see how much of the population can be reduced but to keep it as high as it can be sustained. Where the deer herd is balanced off at a reasonably stable level, it will never have to drop unnecessarily low. Those who recommend herd reduction where needed stress two things in particular—preventing the areas still in comparatively fair condition from reaching the low point of browse growth and deer yield, and the rebuilding of the range that is already browsed-out. Fortunately the sportsman's desire and ability to hunt makes deer population control possible and practical. Each year there is a harvestable crop of deer produced. A substantial portion of the total annual crop is surplus which must be removed when and where it exists, and the best method of removal is by the sportsmen's shooting of the surplus.

8. It seems that the best results will come from a combination of herd reduction, the continued cropping necessary to keep the herd in balance with its food supply, and range management experiments, followed by range management, if feasible.

Officials also feel that because of the comparatively slow growth of browse species, especially when they once have been stunted, immediate recovery in the very bad yards cannot be expected. No matter what measures are found to reduce the population sufficiently in those most critical places, it will take several years for some of them to show any substantial improvement. In the near future, very little improvement could be expected if all deer yards were as void of food growth as the worst 25%, but it is hoped that at least a third of the deer yards can be prevented from reaching the browsed-out stage.

It is the aim of constructive management to prevent the better deer yards from becoming worse and to get an improvement in the poorer areas, to alleviate starvation losses, range damage, and to manage the deer so that the range of Wisconsin can support a reasonable abundance of deer, not for one year but for many years to come.

Just as we were going to press we learned that Wisconsin had a season on both sexes but during separate seasons. Incomplete reports indicate that over 100,000 deer were killed in Wisconsin during the past season. Complete returns will not be available until after the February 1st deadline for hunter's reports. The reduction in the deer herd, however, was said to be short of that needed to conserve deer food and forest plantations.

Despite the heavy deer kill, hunting accidents were reported fewer than in previous years.

Citizen's Committee

We mentioned previously a majority report of the Citizen's Committee selected to study the problem in the field, but we should like briefly to tell you more about its functions because we are firmly convinced that some of our Pennsylvania problems can be more effectively solved through such cooperative alliances. The Wisconsin committee, headed by Prof. Aldo Leopold, and comprising eight additional citizens, wanted to see conditions 'in the raw' so to speak, and if the motion picture referred to earlier is any example of their determination to do that very thing, then we cannot help feeling that ultimately the difficulties of the conservation department, the sportsmen, and the deer themselves will be satisfactorily ironed out. The committee's report, which is hereinafter set forth, bespeaks an intelligent approach. In summation it reads:

The committee fully realized the condition of the herd and realized also that it must be reduced to stop winter starvation and overbrowsing on the range. They made the following suggestions:

"We see no remedy except to reduce the deer herd to what the yards can carry without losing their good natural winter food plants.

"We are convinced that artificial feeding without herd-reduction is no remedy, for it does not relieve the overdraft on natural food plants. States which have tried feeding report that it does not relieve overbrowsing and may aggravate it.

"Artificial feeding of deer is different from artificial feeding of birds, for the latter has no effect on the future supply of natural bird foods.

"The present starvation of fawns is not reducing the herd. Only the removal of does can do so. It is not practicable to distinguish does from other antlerless deer in setting open seasons.

"How much to reduce the herd must vary locally with the degree of present overpopulation. The practical question is whether a single antlerless deer season in the overstocked counties is in danger of over-reducing the herd. There are probably more than half a million deer in Wisconsin. The total number of deer tags sold to deer hunters has not exceeded 120,000. We conclude that every deer hunter could take an antlerless deer for at least one season, and perhaps for several seasons, before a sufficient reduction will have been made. We conclude that no danger of an over-reduction exists, provided the antlerless deer season be restricted to overpopulated counties.

"We conclude that the reforestation program is increasingly jeopardized, and in some spots is already nullified by excess deer."

As we said before, we have attempted to cover only the highlights in this analysis, and we are afraid we included more than necessary. Nonetheless we feel that it is to our advantage to look at the other fellow's difficulties once in a while for by so doing we may find some way out of ours.

Land Classification as a Technique in Wildlife Management

WILDLIFE PRACTICES AND LAND CLASSES

Practice	Land Class							
	Cultivated land				Pasture or woodland			Wildlife land
	I	II	III	IV	V	VI	VII	VIII
Hedges	x	x	x	x	x	x	x	
Field borders	x	x	x	x				
Shrub buffers (wind erosion control)		x	x	x				
Management of odd spots			x	x	x	x	x	x
Pond management				x	x	x	x	x
Irrigation and drainage ditch bank management					x	x	x	x
Streambank management					x	x	x	x
Spoilbank management							x	x
Beaver management							x	x
Marsh management								x
Number of wildlife practices applicable to each land class	2	3	4	5	5	5	7	7



Marsh areas such as shown here are another example of Class VIII land which is primarily useful for the production of wildlife crops. In this instance fur-bearers and waterfowl are the most valuable harvest to which this land is adapted.



Crop I land includes much of our best cropland. It can be maintained continuously in production without special conservation practices although good farm management is required.

(Continued from page 17)

Of course, there are many localities in which land may not be as completely utilized as indicated by a classification according to use capabilities. Such a classification determines the most intensive use to which parcels of land can be subjected without waste of the land resource. Social and economic conditions always influence use of land. Although much of New England is Class II and Class III land, capable of producing cultivated crops, it is now most profitably maintained in pasture and forest, because tilled crops from these lands cannot now compete with similar products from even richer crop lands like those of the Middle West. Thus the wooded hills of Massachusetts were once four-fifths in farm land, and the grass covered valleys of Vermont once grew so much wheat that Vermont was known as the Bread Basket of the Revolution.

Just as broad decisions relating to land management may rest on economic factors of a regional nature, so use of smaller parcels of land will be subject to like influences. The wildlife manager must determine the advisability of investing his efforts on land that, while potentially productive of wildlife, cannot under existing conditions be economically so managed. Cost and demand should dictate the extent to which each land class should be modified for wildlife production just as they influence production of any other crop.

Summarily, the gist of this paper is: The classification of land has been developed gradually in the United States, culminating in a classification according to use capabilities which is applicable to operating units of rural land, such as individual farms and ranches. Wise use of land is predicated upon such a classification which determines the most intensive use to which each parcel of land is adapted in accordance with its permanent productiveness. Thus some areas are adapted to intensive cultivation, others to less intensive cropping. Some lands can be used safely only when they are covered with permanent vegetation, as pasture or woodland, and still other areas are adapted to none of these uses but are most productive of a wildlife crop. For productive management of the latter areas the wildlife technician, along with the land operator, has full responsibility.

Some areas best managed for wildlife, as ponds, field borders, and hedgerows, occur within many land classes and afford the wildlife manager an opportunity to modify even intensively cultivated areas for wildlife welfare. Only by a knowledge of the land and the uses to which it is best adapted can any land management technician—farmer, agronomist, agricultural engineer, forester, range manager, or biologist—hope to be successful with the manipulation of the products of the land, of which wildlife is one. Thus it seems that the wildlife manager can expect to produce permanent results only when he considers, along with costs involved and demand for what he produces, the adaptabilities of the land, the rightful place of wildlife improvements on different kinds of land, and the most effective manner by which he can correlate his recommendations with those of others who work upon the land.

In Pursuit of Beavers - - - - -

(Continued from page 15)

up on our various belongings. Meanwhile, threatening clouds of rain had drifted in across the sky and darkness was hastening on. I waited and waited patiently for Joe and the protector to return. Then, as the rain commenced to fall in earnest, as the black pallor of nightfall settled over the woods, my buddy and the officer arrived and I asked Crosvelt quite promptly whether he had found any fish.

"Yes indeed, a number of them; it's too bad they perished the way they did."

Rain was coming down in torrents again and it was so bleak and dreary the weather wasn't fit even for a worthless dog to be out in. The car was started up and we went thumpety-thump over the old and rotted wooden ties of the abandoned tramroad that coursed in the direction of the White Oak camp some distance further up at the headwaters of Corbin. At intervals sharp flashes of lightning lighted up our path and that helped us to hold the road. The rain was so dense we could hardly see more than a few feet ahead at times. Finally, we reached our destination. My bedding, cooking utensils and other paraphernalia were unloaded and shortly afterwards I watched Joe pull away and vanish in the darkness.

Crosvelt, Gallagher and the third chap, whose name I have forgotten, warmed up a few minutes and then they, too, got in their car. I watched until the last flickering red of the tail-light faded in the pitch black of the night.

Then I retired but I couldn't help thinking of the aggressive attitude of those new arrivals. Certainly, they had no ideas of sportsmanship in their blood. I had tried to reason with them, but to no avail. My desire to spend the night with them was prudently right. I wanted to prove to them that we could compromise.

At the gray dawn of the following morning I was up as usual and made the rounds of the trapline. My would-be competitors were still out in the beaver habitat and I noted that they limited their trap-setting to the confines of the beaver colony that lived right in the neighborhood of the camp. They weren't so hot as trappers, and my prompt assumption was that they made a mistake in ousting me so hastily and without just cause. I could have helped them now. I could have shown them how to improve on their sets, and I would have done just that had they played the game right with me. I conceived an idea. For several minutes I watched rather amusedly as they stumbled around in their efforts to make a job of planting the steel and then, at the opportune moment, I spoke to them kindly: "Fellows, I'll guarantee you one thing for sure; you won't get any beavers here." And you should have seen the blinks in their eyes.

After lunch I went over my line again and gathered up all traps except the very best bets in the way of sets and then came back by the camp of my would-be rivals and planted traps thickly everywhere to fulfill my promise. I did it so cleverly there was no room for argument or interference.

Joe came in on Tuesday morning. I told him what I had done and he was pleased to learn that I was giving the boys a dose of their own medicine. It was necessary that the kid brother go back to town the same day so he departed and that left me to shift for myself.



Adult beaver.

Nothing eventful occurred on the following day but on Thursday, late in the afternoon, my conceited friends packed up, with nothing to show the folks back home. Their departure over the rough and hard forest roads that led back to civilization and brighter lights must have been quite doleful and gloomy in defeat. By their conspicuous absence from the woods the quietude that followed only added to the loneliness of the deserted forest, and in passing by the stilled, woodland hunting lodge that was now cold with emptiness a feeling of regret ran through me. Although I was sure that our misunderstandings were only of a trivial nature somehow or other I couldn't help thinking about it now; but there was the certainty that time heals all wounds and even in this case there was a great deal of consolation in the thought that man is of a condoning nature and that all was forgiven.

I stayed in the woods another week. The weather turned cold again and it was miserably uncomfortable during a few of those nights even with the stove fire going full.

Since then, ten years ago, things have changed materially in the old beaver haunts and the adjacent Black Moshannon country. The old Farm Road that impeded our movements enroute to beaver land has been replaced with a new, hard-surfaced speedway; the place where the old homestead stood, where we encountered heavy snowdrifts, is now a modern mile-long airport, one of the finest in the country; the head-water territories are grown up amidst a profusion of thousands of young and thrifty pine trees, and even the old tramroad, as well as other log roads of the days of yore, have been converted into graded, modern dirt roads that make travel comparatively easy. Shield's Dam was wiped out by the high flood waters of 1936. Beavers, meanwhile, continue to inhabit the waters of Corbin and Six Mile Runs and I am sure that they, as well as their progeny, will continue to prosper and fare well under the prudent, protective policies of the Game Commission in the years to come.

DID YOU SEND IN YOUR GAME KILL REPORT? IT WAS DUE JANUARY 15

Invasion from the South - - -

(Continued from page 7)

In 1940 my records for early nests found in Chester County, Pa., list the following in chronological order:

Great horned owl	3 eggs	February	17
Crow	5 eggs	March	29
Mourning dove	2 eggs	April	9
Long-eared owl	4 eggs	April	10
Barn owl	5 eggs	April	12
Red-shouldered hawk	4 eggs	April	20
Turkey vulture	2 eggs	April	26
Cooper's hawk	4 eggs	April	29
Robin	3 eggs	May	2
Purple grackle	4 eggs	May	2
White-breasted nuthatch	7 eggs	May	2

From New Hampshire, about 370 miles north of the locality just mentioned, in country similar to that of Pennsylvania's Poconos, I recorded in 1941 the nesting of:

Barred owl	2 eggs	April	12
Goshawk	3 eggs	April	12
Woodcock	3 eggs	April	22
Robin	nest finished	April	25
Pine siskin	building	April	27
Hairy woodpecker	4 eggs	May	3
Pileated woodpecker	3 eggs	May	18

Other early nests, not appearing in these lists, that may be found in the non-mountainous districts of Pennsylvania are the Phoebe's (look under any country bridge in late April for the bulky mossy-green cup), the song sparrow's (low, thick bushes, hedges, high grass, often right in your own back yard) and the cardinal's (a loosely constructed nest in a dense clump of honeysuckle).

Returning birds have always been a symbol of happiness, or better times to come. Remember the haunting hopefulness of the great song of a year ago, "There'll Be Bluebirds Over The White Cliffs of Dover"? Although scientifically incorrect (bluebirds do not occur in England), it is a lovely air that caused hope to stir in the hearts of thousands.

Keep watch for the bird travellers this Spring; welcome them with scattered food. For, besides coming up here on household business of their own, the birds save farmers and gardeners millions of dollars worth of crops every year by destroying such pests as insects, caterpillars, mice and weed seeds. They are truly the policemen of the air (and have no tickets for the annual ball to sell.)

Grackle, robin, bluebird, song sparrow or red-wing—which will YOU see first?



Red-winged Blackbird.

There is nothing like sticking up for your own club. When K. G. Miller, Secretary of the Northampton Rod and Gun Club, Glencoe, Pa., read a news account of the fox hunting activities of the Warren Field and Stream Club recently he felt it was about time to sing the laurels of his own group, and rightly so. In the first place the Northampton association is giving free memberships to all its boys in the armed forces for the duration. And in the second place individual members are accounting for a few foxes, too. Two of them succeeded in getting more than fifty in about six weeks, not mentioning weasels, minks and other predators. And secretary Miller says "Don't be surprised if we soon pass the 75 mark. We can't get together for mass hunts like some of the other clubs because our members are too widely scattered, but individually we're doing our share."

Talk about sportsmen's associations embarking on civic endeavors. The Brush Valley Association recently held a square dance in its club house which netted over $100, all of which was turned over to the local Infantile Paralysis Fund. That's the old spirit.

Food Habits of the Black Bear

(Continued from page 9)

Comparatively few plant species produce food that is available to bears during the late fall, winter, and early spring. At present, four groups of plants in Pennsylvania are sufficiently abundant and productive to provide food over much of the bear range during the dormant months, these being the oaks, beech, apples and grapes. The oaks and beech are by far the most important, but the beech is a very unstable producer, and the oaks do not produce heavily each year. At one time the chestnut probably filled the gap, particularly in years when beechnuts and acorns were scarce.

Apples are an important food, especially when they carry the load through years of unfavorable production of other species. Apple trees are found throughout Pennsylvania forests, along old logging roads and around abandoned homesteads. The trees along the trails and roads originated from seeds of apple cores thrown to the side by woods workers during earlier logging operations. Pennsylvania has many areas of beech that will begin to produce nuts in a few years. As the years go by, greater crops of beech mast will be produced during favorable mast years. To a small degree, this can also be said for the oaks. Grape and apple production will probably decline unless released because such species are crowded out by climax forest species. (On Game Commission lands much release cutting is being done to avoid this very thing.)

Wild cherries appear to be the most important summer food of bears in Pennsylvania, and foresters should consider the cherry as an important forest tree, not necessarily for its timber value, but because it is a part of a balanced biotic community. The bear is only one species that utilizes the cherry. Many other mammals and scores of birds get part of their sustenance from this source.



This little fellow doesn't need to worry about food habits. He's a bottle baby.

History of Ringneck

(Continued from page 11)

'Nature made Bucks a ringneck county.' Mr. Fretz stated.

"The ringnecks thrived in all the open parts of the county, except among the boulders in the vast Trap Rock section, where the birds bred in captivity, for some years could not be induced to remain; but Mr. Fretz overcame this by planting trios of wild birds from other parts of the county, and they held on and increased in numbers.

"As to details on the ringnecks in Blair county, I refer to those premier sportsmen and naturalists Harry A. McGraw, and Harry P. Hays, should they care to contribute chapters on this topic. After the disappearance of the wild pigeons, and the scarcity, due to lack of proper conditions, of ruffed grouse and quail, Bucks county sportsmen were ready for a new type of game. They wanted the ringneck amply supplied, as it has since been in Blair and Clinton counties.

"Probably what was the last wild pigeon in Pennsylvania was shot in Monroe county, October 23, 1895. The last wild pigeon in Bucks county was one of or a descendant of 11 captured as stool pigeons and flyers by Amos Carson, of Buckingham, the last of the old pigeon trappers of Bucks county, who folded up his nets about 1880, because of the growing scarcity of the birds. He kept 11 birds in captivity for many years, partly in the hope that the vast flocks would return, partly out of sentiment; but when only one was left he released it, in or around 1890.

"This bird, an eye-witness has said, despite its long life in a cage 'went like a bullet as soon as it was out, and as far as could be seen, travelled at the same swift pace.' On the Loyalsock creek, near Montoursville, a flock of wild pigeons were long kept caged for similar reasons, but the last, according to records, was killed by a cat which in some manner entered the cage on New Year's Eve, 1908."

Hunting Scene

(Continued from page 12)

a hill from whence the well water was piped down to the house. It was perfect cover for rabbit and pheasant, but the two were so engrossed in their talk the hunter never even noticed.

All this time, during the walk through the barnyard and across the meadow, the girl's eyes were shining with mischief. Finally, she broke into a merry laugh.

The hunter was puzzled. "What," he demanded, "are you laughing at?"

"You forgot your dog," the girl chided, ". . . and your gun . . ."

It was the hunter's turn to laugh.

"That," he said, "is what YOU think?"

He took her arm and they walked on across a soft carpet of bright leaves and soft, swishing grass.

JOHNNY SNEAKUM

The honest trapper, sportsmanly,
Selects his trap-line trail,
He sets each trap so skillfully,
He knows it cannot fail.

But long before his perfect set
Some furry foot can snap,
Johnny Sneakum comes along,
And Johnny steals the trap.

Johnny should be hunted down,
His name should be made known,
He is the human skunk who lifts
The traps he does not own.

Johnny should be photographed,
In brand-new prison clothes,
With a pair of handcuffs on his wrists,
And a steel trap on his nose.

—F. Judson Sewall

Wildlife Conservation...

(Continued from page 10)

range predators will have very little effect upon the security of its members. If, on the other hand, a population is much greater than the carrying capacity of its range the excess will be rendered vulnerable to a number of natural factors which will tend to remove them. Predators are but one of these factors. From all of the facts at hand, it is evident that the time and money so often spent on ineffectual "vermin control" campaigns would be of infinitely more benefit to any species of wildlife if it were spent on efforts to improve food and cover conditions for that species.

Under certain conditions some control may have to be exercised over predators. It certainly would be difficult to convince the farmer who has been steadily loosing his chickens to some species of predatory animal that he shouldn't take stern steps to stop the depredations. That isn't the same as saying that all kinds of predators should be killed indiscriminately. We have been doing that for some time. In spite of the fact that we have known for a long time that most of our hawks and owls are beneficial as far as their food habits are concerned we continue to persecute these birds without hesitation. We haven't, that is the most of us haven't, taken the time, or put forth the effort, to learn one hawk from another, to learn friend from foe. Local conditions do, of course, occasionally arise when some control measures are necessary but we must not assume that such conditions are general or that they are justification for the widespread persecution of predatory species.

As far as predatory species are concerned there can be very little doubt but that man's economic considerations will always be paramount. There are, of course, other values, much less tangible, which must also be given some consideration. There are folks who enjoy seeing a hawk circling high in the air just as much as the sportsman enjoys that sudden, explosive, whir of wings as a covey of quail takes wing. There are those among us who enjoy the beauty of the egret as much as the fisherman enjoys catching a big bass. More and more, we are coming to attach esthetic, educational, and inspirational values to wildlife. That should go a long way toward thwarting some of our otherwise destructive tendencies. No species of wildlife existing today, predator or otherwise, should be sacrificed as were the passenger pigeon, the heath hen, and the Carolina paroquet.



Great Horned Owls can be a serious menace to wildlife when they are abundant locally.

INDEX VOLUME XIV

	Number		Page
A Naturalist in Uniform—Ulmer	May		4
A Study of the Winter Activities of the New York Weasel—Glover	Sept.		9
An Old Stub—Stabler	Dec.		19
A Nature Study—Sedlak	Jan.,	1944	6
Beaver, the American—Brown	April		4
Barrens, The—Conklin	April		6
Build a Nature Trail—Ahrens	July		10
Black Bear of Elbow Swamp—Anderson	Oct.		6
Bear, Food Habits of—Bennett, English, Watts	Mar.,	1944	8
Big Game Feeding vs Forest Fires—Hogeland	Mar.		13
Cave Exploring—Stone	June		14
Camera Stalking—Floss	June		17
Conservation Shortcomings—Casillo	July		11
Conservation and Guinea Pigs	Oct.		8
Calling Mr. Average Deer Hunter—Floss	Dec.		15
Dwellers in Darkness—Mohr	July		5
Days Afield—Wieand	Aug.		14
Don't Waste the Game Crop—Wilson's	Nov.		6
Don't You Call Me Polecat—Gilmore	Dec.		18
Deer, More About—Wisconsin Bulletin	Mar.,	1944	4
Forestry in Wartime, A report	June		3
Farm Ponds—Edminster	June		13
Farm Game Program Yields Dividends—Freeburn	Aug.		13
Fur Trapping Methods—Sedlak	Sept.		10
Fur Trapping Methods—Sedlak	Oct.		10
Fur Trapping Methods—Sedlak	Nov.		13
Foxes Without Dogs—Mattern	Sept.		14
Fur Trapping Methods—Sedlak	Dec.		6
Food For Thought and Wildlife—Edminster & Langenbach	Jan.,	1944	8
Foxy Fox Hunting—Donaldson	Mar.		3
Game in National Defense—Mattern	April		3
Game, Some Census Methods for—Studholme	April		8
Grease for the Axis—Editor	July		3
Game, Trapping Program	Feb.,	1944	18
Hard Trapline Facts—Sedlak	June		8
How to Avoid Lightning—Kearney	Sept.		3
How to Cook a Grouse—Casillo	Sept.		6
Hunting the Headlines—Reddinger	Oct.		16
How to Handle Your Gun in the Field—Editor	Nov.		8
Hunting Scene—Driscoll	Mar.,	1944	12
It'll Happen Every Time—Small	June		4
It Ain't Necessarily So—Powell	Sept.		16
It Ain't Necessarily So—Powell	Oct.		7
Investing the Sportsman's Dollar—Slaybaugh	Jan.,	1944	4
In Pursuit of Beavers, Part 1—Sedlak	Feb.		12
In Pursuit of Beavers, Part 2—Sedlak	Mar.		16
Invasion from the North—Abbott	Mar.		6
Killing Two Birds with One Stone—Lamberton	Dec.		3
Kill 'Em With Kindness—Wilson's	Feb.,	1944	8
Log of Rattlesnake Shack—Champlain	April		15
Log of Rattlesnake Shack—Champlain	May		8
Log of Rattlesnake Shack—Champlain	June		9
Large Game Tract Acquired—Conklin	Feb.,	1944	7
Land Classification as a Technique in Wildlife Management—Graham	Mar.		14
Muskrat Recipes—Dozier	April		12
More and Better Walnuts	Sept.		15
N. R. A., Hats off to—Editor	May		10
National Grouse Trails	July		15
New Types Pens for Bobwhite Quail	Dec.		14
Off-sized Shot and Ammunition—Mattern	May		3
Outdoor Writers Meet	Oct.		18
Our Deer, Past, Present, Future—Lathan	Dec.		4
Our Strength is in the Earth—Landess	Feb.,	1944	10
A Better Mousetrap—Harrison	Feb.		19
Plant a Game Food Plot—Freeburn	April		14
'Possum Hollow—Prugh	May		12
Planting by Air—Simon	May		13
Preparing How to Trap—Sedlak	Aug.		10
Plans for Future Land Management—Freeburn	Sept.		5
Post War Planning—Leffler	Oct.		3
Planting Trees for Posterity and Wildlife—Phillips	Nov.		14
Practical Application Mammalian Population Studies—Cahalane	Dec.		10
Proper Approach to a Duck Dinner—Stone	Dec.		12
Predators on a Game Refuge—Poole	Jan.,	1944	10
Pennsylvania's 1942 Game Harvest—Slaybaugh	Feb.		3
Rabbits and Victory Gardens—Miller	May		15
Reactions of Trapped Animals—Sedlak	May		18
Ringtail—Wieand	July		12
Rabbit-track Moses and the Preacher—Anderson	Dec.		16
Ringneck Pheasant, History of—Shoemaker	Mar.,	1944	11
Serving Those Who Serve—Editor	May		20
Sporting Ammunition and War—Gordon	June		6
Seagulls are Saviors—Shoemaker	June		16
Service with a Smile, A Report Nat. Park Service	July		6
Saying What You Mean When You Talk Shooting—Hawkins	July		14
This is Ours to Fight For—Bennett	Aug.		6
The Woodchuck—Fackler	Aug.		12
The Big-inch—Conklin	Sept.		12
The Antlerless Deer Season	Oct.		12
The Call of the Wild—Casillo	Oct.		20
The Dog—Hawes	Nov.		3
The Eternal Question—Phillips	Nov.		4
The Muskrat —Failor	Nov.		12
The Grand National Grouse Championship—Foss	Jan.	1944	9
The History of the Buffalo—Shoemaker	Feb.		15
Victory Gardens and Ration Points—Cramer	Aug.		4
Would You be a Trapper?—Sedlak	April		10
Wildlife Conference, A Report on Eighth National—Gordon	May		8
Wild Turkey, Food Habits of —Kozicky	July		8
Wildlife Status of Fur-bearers—Sedlak	July		17
Wildlife and Fishery Resources in Wartime—Editor	Aug.		8
Wild Turkey, Sex and Age Determination—Keiser & Kozicky	Nov.		10
Wildlife Conservation, Its Past, Present and Future—Grimm	Nov.		18
Wildlife Conservation, Its Past, Present and Future—Grimm	Dec.		8
Wildlife Conservation, Its Past, Present and Future—Grimm	Jan.	1944	5
Wildlife Conservation, Its Past, Present and Future—Grimm	Feb.		14
Wildlife Conservation, Its Past, Present and Future—Grimm	March		10

Big Game Feeding vs Forest Fires

(Continued from page 13)

Amateur axmen are likely to injure or damage a tree trunk when attempting to cut limbs with an axe. Don't leave long stubs on a trunk; that produces knots in lumber. Don't cut everything; both you and the deer may wish to return another time. Let us bear in mind that as our forests reach maturity and are harvested both lumber and browse are provided.

One more suggestion. There are scores of acres of forest land in this Forest District (but not on State Forest) now in process of being stripped for coal. Why not see what can be done about planting these barren areas with a forage suitable for deer? I feel quite sure most owners would not object, if properly approached. Hundreds of thousands of natural forest trees have been planted successfully on such strippings in other parts of the state.

May I, in closing, leave with you this thought, expressed in a letter received by me not so long ago from one of the most successful hunters and trappers in this section, now overseas: "I have been in a good many of the states and ours is still superior to my way of thinking. I feel satisfied that many of our Pennsylvania boys will, before the end of this conflict, become aware of the fact that our fish, game and forests have been everlastingly abused, altho it did take a mess of this nature to realize what a fine place of recreation we have and how wonderful it could be with full cooperation instead of those everlasting game killers, fish hogs and fire bugs. I feel sure that the cooperation in regard to fish, game and the forests will be greater after the war than ever before. So do your best until we return to give you a real hand."

U. S. Hunting and Fishing Licenses Over 16,000,000

Despite wartime restrictions, hunting license holders during the 1942-43 season numbered 8,049,537, according to a preliminary report of the Fish and Wildlife Service. The revenue derived by the States from the sale of these licenses amounted to $13,455,636.

Based on reports received from 44 States, plus estimates for the four remaining States from which reports have not been received so far, these figures represent a decrease of 441,301, or only 5.2 percent, in the number of license holders, and 3.2 percent in revenue received, as compared with the 1942 figures.

That 8,035,076 fishing licenses were sold to anglers during the fiscal year 1943 is indicated from reports collected by the Service from 43 States, plus estimates for the five States that have not yet reported. This is a decrease of 388,142, or 4.6 percent, as compared to the 8,423,218 angling license holders for the previous year. The revenue from the 1943 fishing licenses was $10,032,852, a decline of 6.5 percent from 1942.

According to a previous report, hunters who harvested the wild game crop during the 1942-43 hunting season took 255,404,000 pounds of usable meat.

The frigate, or man-o'-war, bird is really a pirate. He robs other fish-eating birds of their catches.

THE FAMILY OF A. HUNTER, ESQUIRE—EPISODE NO. 35

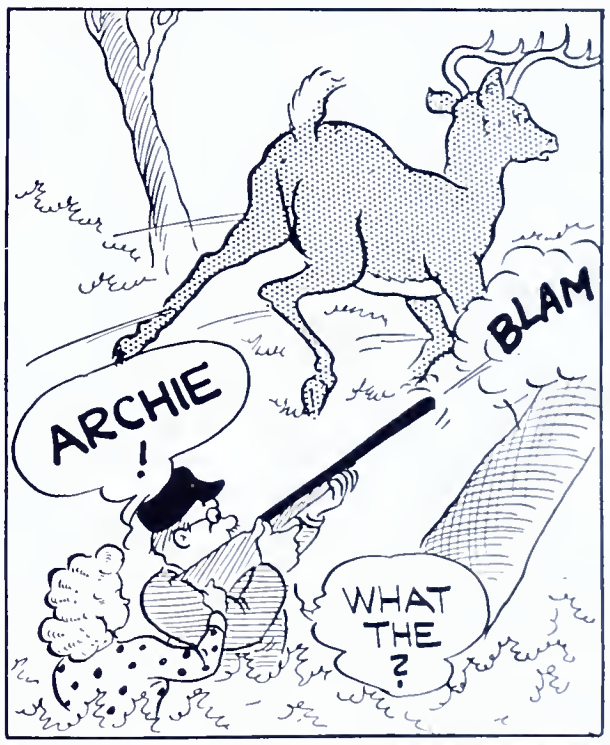


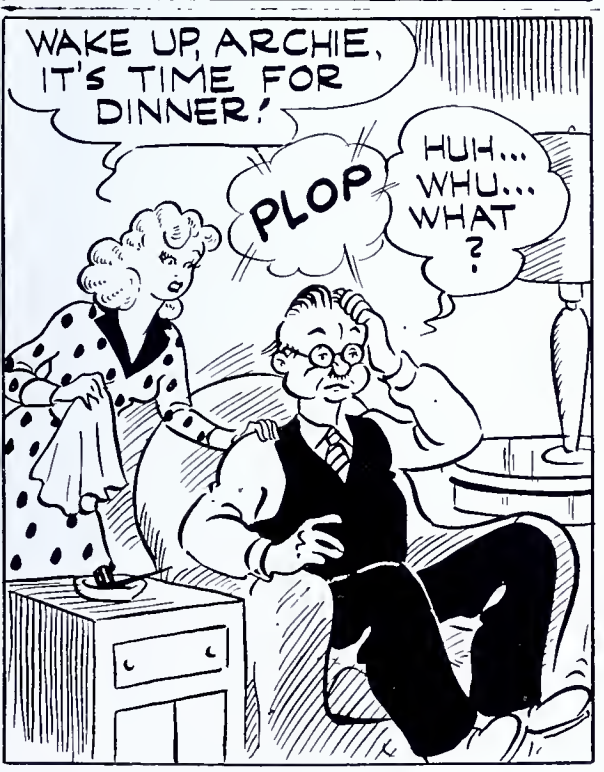


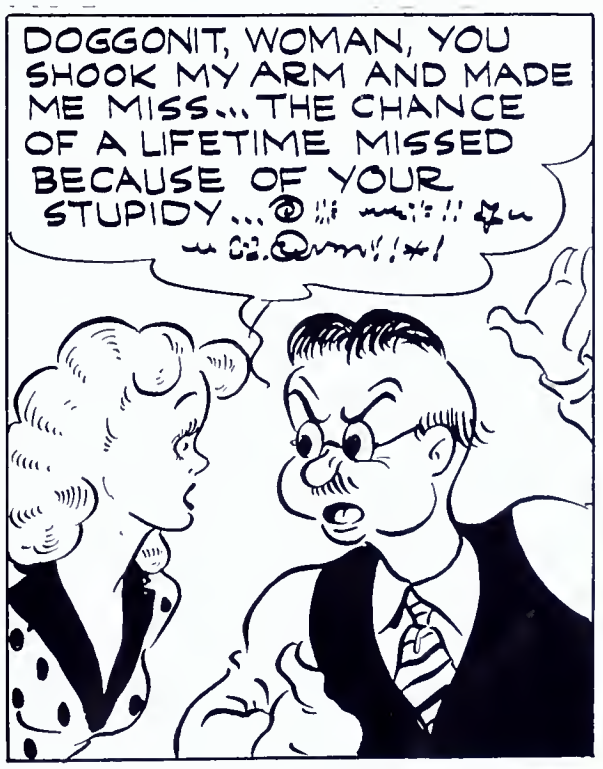


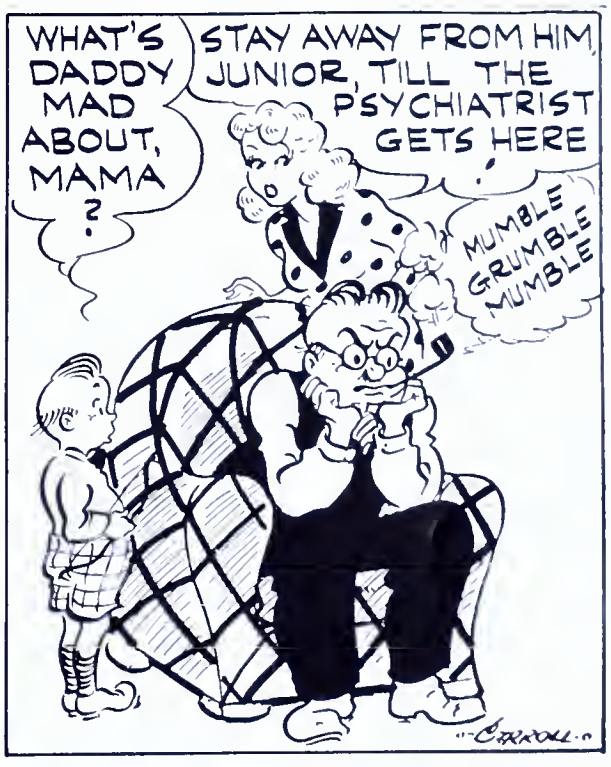












BUY WAR BONDS AND BACK THE ATTACK